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ON

PROPHYLACTIC INOCULATION AGAINST PNEUMOCOCCUS INFECTIONS,

AND ON THE RESULTS WHICH HAVE BEEN ACHIEVED BY IT.[1]

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GENTLEMEN,—I have the honour herewith to lay before you the second, and concluding, part of my Report on the Causation, Prophylaxis, and Treatment of the Pneumonia which affects the Native Labourers, and in particular the Tropical Native Labourers, in the Rand Mines.

In the introduction to Part I. the broad principles which must guide us when confronting bacterial disease were elucidated. It was explained that whether the object we have in view is prophylaxis or cure—that is, whether, as in prophylactic inoculation, we endeavour to kill off microbes immediately upon their entrance into the body before they have produced disease; or whether, as in *medicine practised as a science, we try to* kill off bacteria when, by invading the body in large numbers, they have already produced disease—our task is to supply to the organism substances which are specifically *bacteriotropic*—that is, substances which make a chemical attack specifically upon the microbes of disease.

We saw that in connexion with each several disease two paths of research open out before us. On the one hand, there is the path of *pharmacotherapy.* Following this, we may come to an effective and non-poisonous specifically bacteriotropic drug. There is, on the other hand, the path of *immuno-therapy.* Following this, we may come to an effective vaccine—i.e., to a vaccine which will, when administered in a proper dose, stimulate the chemical machinery of the patient to elaborate the required *specifically bacteriotropic substances.*

We have here to deal with the *immuno-therapy* of pneumococcus infections, and in particular with the employment of vaccines in the prophylaxis and treatment of pneumonia. It will not be amiss to begin by setting out the evidence which establishes that the pneumococcus is the microbe which is the causal agent of the pneumonia on the Rand. (Table I.)

TABLE I.—*Data of Blood Cultures and Lung Puncture Cultures undertaken upon Cases of Pneumonia in Tropical Natives treated in the Hospital of the Witwatersrand Native Labour Association.*[2]

Nature of the bacteriological observation.	Number of cases examined.	Number of cases in which the pneumococcus was found.	Number of cases in which the cultures remained sterile.	Number of cases in which a microbe other than the pneumococcus was found.
Blood cultures (1 to 20 c.c. of *blood*).	380	99 *	277 †	4 ‡
Lung puncture cultures.	53	31 §	18 ‖	1 ‡

* Of these, 56 (i.e., 56 per cent.) succumbed. † Of these, 76 (i.e., 27·5 per cent.) succumbed. ‡ The micro-organism which grew was in each case one of the coli group. § Of these, 10 succumbed. ‖ Of these, 6 succumbed.

The nature of the bacterial infection which was to be combated having been set at rest, our principal task stood out clearly before us. It was to prepare vaccines of the pneumococcus; to ascertain, if possible, what was the best form of vaccine; and above all to determine the effective and, so far as might be possible, the *optimum* dose of the vaccine, and the best method of application.

We may with advantage begin with a brief description of the methods we adopted in preparing the vaccine; and we may then, before dealing specifically with immunisation against the pneumococcus, call attention to those broad general principles with regard to dosage and the *modus operandi* of vaccines which would appear to be deducible from the experience won in connexion with immunisation against other bacterial infections.

SECTION I.—*Preparation of Pneumococcus Vaccines.*

We experimented somewhat extensively with a view to selecting for use a medium which should give a very copious culture of pneumococcus. Varying in a methodical manner the peptone, extractives, and alkali of ordinary peptone broth, and then making to such media graduated additions of human serum, we found that very copious cultures of pneumococcus were regularly obtained with a medium which contained (*a*) 1 per cent. of *peptone and 1 per cent. of lemco*; (*b*) 2½ *to* 5 *per* cent. of human serum; and (*c*) an amount of alkali fixed by neutralising to phenolphthalein, and then adding 6 c.c. of normal acid solution to each litre of medium.

During the first couple of months of our work in Johannesburg we worked with a medium composed as above; but finding that we obtained much more copious cultures by adding up to 1 per cent. of glucose to the above mentioned medium, we employed such serum glucose broth in most of our subsequent work. We would, however, point out in this connexion that where such a serum glucose broth is employed it is necessary to be constantly *on the watch against the occurrence of autolytic* processes which go, it would seem, hand in hand with the development of acid in the culture medium. For these autolytic processes[3] may, even they stop short of an actual disintegration of the microbes, deprive the bacteria of their power of staining with aniline dyes, and so give rise to formidable fallacies in standardising the vaccines.

Our vaccines were in all cases made from cultures which had grown for 24 to 30 hours. They were standardised by enumeration by the now familiar method devised by one of us. The cultures were killed by exposure to a temperature of 55° to 56° C. for half an hour. An addition of ½ per cent. of carbolic acid was then made to the vaccines.

SECTION II.—*Generalisations with Reference to the Modus Operandi and Dosage of Vaccines, and Considerations suggested by Experience won in connexion with Prophylactic and Therapeutic Inoculation generally.*

Whenever an *antigen*—and we mean by an "antigen" an alien molecule whose incorporation incites the chemical machinery of the body to immunising response—comes into operation upon the tissues, these react to that attack by producing *antigeni-tropic* and *antigeni-clastic substances*—i.e., substances which combine with, render inert, and break down the antigen. It is a characteristic feature of such reactions of immunisation that the output of antigeni-tropic and antigeni-clastic substances is in the ordinary case much in excess of what would suffice for the neutralisation and disintegration of the quantum of antigen which call forth their production.

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[1] Being Part I[illegible] Asso[illegible] laxi[illegible] Labo[illegible] Min[illegible] and 21st (p. 1701), 1912.

[3] [illegible] in which autolysis has occurred did not exert any bactericidal power upon the pneumococcus.

The reaction which is evoked by the inoculation of a bacterial vaccine is merely a special case of immunising response. By it bacteriotropic substances, and among these substances which break down the bacterial protoplasm—bacterioclastic substances—are produced. And in the ordinary case the inoculated organism is, at the end, left in possession of an increased store of these protective substances. We take advantage of this in prophylactic and therapeutic inoculation.

Passing from the consideration of the *modus operandi* of bacterial vaccines to their dosage it is essential to realise *in limine* that we must be on our guard against importing into the study of this question preconceptions derived from experience with drugs. When, for instance, we come upon the fact that there are reported, in connexion with therapeutic inoculation, good results from the administration of minimal doses of vaccines, and also equally good results from the administration of doses 1000 to 100,000 times larger, it would be quite wrong to assert upon the basis of an experience with drugs that these divergent reports are contradictory and irreconcilable. To rush to such a conclusion would be to close one's eyes to the fact that provision is made in the organism for combating, on the one hand, trivial localised infections, [illegible]nd, on the other hand, severe septicæmic infec[illegible]—in other words, for making immunising [illegible]nse both to small and to relatively large [illegible] of bacterial antigens.

[illegible]gain, it would be fatal to conclude from an experience of drugs that, if a particular dose of vaccine produced serious symptoms, a tenfold larger dose would of necessity produce graver symptoms, and still larger doses a rapidly fatal result. That would be to leave out of reckoning the fact that there are in the organism compensating arrangements; and that there is provision for ignoring, or at least for provisionally ignoring and postponing the attack upon, massive bacterial infections which are upon too large a scale to be disposed of immediately.

In connexion with the dosage of bacterial vaccines we have to guide ourselves by a series of general principles, which have either emerged in the course of the general study of immunisation or have been derived from the direct measurements of the bacteriotropic power of the blood made in connexion with the inoculation of bacterial vaccines. Of these general inferences, the following are perhaps for us the most important.

In the case where a bacterial vaccine is incorporated in minute quantity directly into the subcutaneous tissue one would on *a priori grounds* anticipate that the whole of it would be "*anchored*" at the seat of inoculation, with the result that the immunising response would be confined to this region and its lymph channels; and with the further fundamentally important practical result that the effect produced upon the general system by the inoculation would not differ from that which would be produced by a conveyance of a small quantum of protective substances into the blood.

The inference that the *minimal effective dose* of vaccine calls forth only a *local immunising response* is confirmed by the fact that, so far as we know, the only change in the blood after the injection of such a dose is a rise in its bacteriotropic power. When a larger dose of bacterial vaccine is inoculated into the subcutaneous tissue—i.e., when the dose of bacterial antigen exceeds that quantum which can be anchored at the seat of inoculation—one would expect, first, an influx of vaccine or of its derivative antigen into the blood-stream; and after this, in the ordinary case, as soon as the antigen has come into operation upon the general tissues, a *systemic immunising response*, with an inflow of protective substances into the blood. We have confirmation of this anticipation in the fact that we obtain after the inoculation of a moderate dose of vaccine, first, a *negative* and afterwards a *positive phase* of bacteriotropic power—in other words, *first*, a phenomenon of de-immunisation and then a phenomenon of immunisation. But clearly the achievement of a systemic immunising response would be conditional upon the antigen remaining free in the blood; and upon the concentration of the antigen being, after dilution with the whole volume of blood, such as to permit of its coming into effective operation upon the tissues.

There are here two possibilities. There is, on the one hand, the possibility that the antigen might be too concentrated at the seat of inoculation to produce a local immunising response; and that it might, after dilution with the whole volume of the blood, and eventual neutralisation there, be reduced to the point of ineffectiveness. We should in such a case have neither a negative nor a positive phase. There is, on the other hand, the possibility that the antigen might, even after it had been diluted with the whole volume of the blood, still be too concentrated to be effective. We should in this case expect a negative phase which would not be followed up by a positive phase. Only methodical experimentation could show exactly up to what point these theoretical possibilities are realised. It is, however, practically certain that an overpowering dose of vaccine—typhoid vaccine is the vaccine we have here in view—produces a well-marked and enduring negative phase.

We have not yet come to the end of the complications which have to be unravelled. We have to account also for the facts—(*a*) that a dose which in one man produces no constitutional commotion will in another produce severe disturbance; (*b*) that after a certain dose of vaccine has been arrived at, further increments produce no further increase in the constitutional disturbance, and no further reduction in the bacteriotropic power of the blood; (*c*) that the infected organism is generally much more sensitive than the uninfected organism, both to toxic effect of the homologous vaccine, and also to its de-immunising and immunising effect; (*d*) that the organism when wasted by severe and long-lasting infection becomes again more tolerant of the vaccine; and (*e*) that a similar tolerance is established in a patient whose blood has been tampered with by the incorporation of large doses of vaccine.

In connexion with this series of facts we shall do well to reflect that before a vaccine can take effect upon the tissues, and before an immunising response can be evoked from these, the bacterial protoplasm would have to be brought into solution by the blood-fluids. Further, the bacterial extract which bacteriolysis would then have furnished might, perhaps, have to be decomposed in such a way as to set free the antigen.

Three different operative factors might here influence the result: (*a*) Each different species of microbe might offer a different resistance to bacteriolysis, and each resulting bacterial extract a different resistance to bacterioclasis. (*b*) The mode in which the vaccine is incorporated might tell upon the result. In the case where it is incorporated into, and remains lodged in, the subcutaneous tissue one might, inasmuch as here only a small quantum of lymph comes into operation upon the vaccine, *expect to obtain, at best, tardy and incomplete* bacteriolysis and bacterioclasis. Where the vaccine is carried on into the circulation, or is incorporated directly into the blood stream, one might expect a more rapid and complete setting free of the antigen. (*c*) Natural differences in the bacteriolytic and bacterioclastic powers of the blood of different individuals, and also differences referable to foregoing immunisations or de-immunisations, might come into play.

All these different considerations suggest to the mind that we have to consider in inoculating not the actual quantum of vaccine we incorporate, but the quantum of antigen which will be set free from it in the organism of the patient. This hypothesis would fit the fact that there always comes, in the case where progressively larger doses of vaccines are administered, a point where an increase in the dose ceases to call forth a greater response. Our hypothesis would explain also the difference in the behaviour of different vaccines. We have in view here the fact that we obtain with a vaccine like typhoid vaccine, which is readily dissolved and presumably broken up by the blood fluids, a local inflammation at the seat of inoculation, and when a sufficiently large dose is inoculated, also constitutional disturbance with a negative phase; while we obtain neither local inflammatory reaction nor negative phase disturbance when we are dealing with a vaccine which the patient's blood is incompetent to dissolve and decompose. Our hypothesis would explain also the fact that a patient who has, as a result of immunisation or auto-immunisation, acquired a greater bacteriolytic and bacterioclastic power, evinces an increased sensibility to the vaccine. For this is what might reasonably be expected to occur if antigen was set free and a corresponding quantum of antidotal substances was not available to neutralise it. And, in point of fact, this would appear to be the condition encountered in the ordinary tuberculous patient. We have here in the blood an increased bacterioclastic power,[4] and in association with this a great sensitiveness to the epidermal application of tuberculin (Pirquet's phenomena); a greater constitutional sensibility to an incorporation of tuberculin; and a greater susceptibility to its immunising and de-immunising action.

Having once recognised that increased sensitiveness to a bacterial vaccine may be an expression of progress—of course, only very lop-sided progress—in immunisation, the way is open to the recognition of the possibility that the condition of tolerance which characterises the patient who is wasted with a long infection, or has been treated with large doses of vaccine, may mean a reduction in the bacterioclastic power of the blood, and so a retrogression in immunity. The failure to react to tuberculin, and the absence of the Pirquet reaction in old-standing and desperate cases of tuberculosis, would perhaps be explicable in this manner.

In conclusion, it may be pointed out that while some of the increased sensibility of the infected to their homologous vaccine may be put down to the account of increased bacterioclastic power, we must recognise that the constitutional disturbance which supervenes in the infected is due primarily to the *fact that inoculation produces in them always a* secondary auto-inoculation. We can account for the occurrence of such a secondary auto-inoculation when we consider that there must inevitably follow upon any rise in the bacterioclastic power of the blood a breaking down of microbes and a setting free of antigen in the focus of infection which would correspond to a supplementary inoculation. It will accordingly be necessary when reckoning the dose for an infected patient to calculate for the dose which we administer being reinforced by the quantum of antigen which will be liberated in the focus of infection.

In bringing this section to a close it may be pointed out that the general principles we have here been considering must be kept in view not only by the practical worker, but also by the statistician who analyses the results of inoculation. Certain other general considerations in connexion with the dosage and *modus operandi* of vaccines will suggest themselves as we develop our theme.

SECTION III.—*Account of the Laboratory Work undertaken with a View to Finding the Optimum Dose of Pneumococcic Vaccine and the Best Scheme of Administration.*

When we set ourselves the task of finding out what is the optimum dose of a vaccine and the best scheme of administration we can employ one or other of two different methods. We can either—selecting as best we can (which means by a more or less haphazard procedure) a "reasonable" dose and scheme of administration—directly undertake a mass experiment, with the idea of afterwards modifying our dose and programme of inoculation in the light of the statistical results which will come in. Or we can in connexion with each small group of inoculations test the effects we are producing upon the blood with a view to finding out in this way what dose of vaccine and what scheme of inoculation furnish the best curve of immunisation. It will be obvious that if we can adopt this latter procedure, and are not quite unsuccessful in our investigations, the possibilities of failure will be reduced and the prospect of achieving the optimum results will be more favourable. Influenced by this consideration our plan of action was made up, and we addressed ourselves immediately to a preliminary study of the blood in its relation to the pneumococcus in order to prepare ourselves to measure the rise and fall in protective substances elaborated in response to each different dose of pneumococcus vaccine and each different method of administration.

With these thoughts and designs we investigated in succession: (*a*) *the agglutinating power of the serum;* (*b*) the *bactericidal power of the serum;* and (*c*) the *opsonic power of the serum.* Further—

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[4] We have found—and this is in consonance with the results of experiments carried out by F. Meyer and Schmitz (Deutsche Medicinische Wochenschrift, 1912, No. 42, p. 1963) on rabbits—that tuberculin, which has been digested *in vitro* at 37° C. with the serum of a patient, gives a marked Pirquet reaction on the skin of a healthy individual who is insensitive to a control insertion carried out simultaneous on another portion of his skin with the same concentration of untreated tuberculin.

breaking here new ground—we investigated the *phagocyto-bactericidal power* of the unaltered, artificially altered, and reconstituted blood.

Agglutinating Power of the Serum.

We may summarise the result of a number of examinations made directly *ad hoc*, and of a much larger number made incidentally in connexion with measurements of the opsonic power of the blood, by saying that the agglutination reaction is with the pneumococcus only very irregularly obtained. Working with subcultures from the blood- and lung-puncture cultures which were in question above, we found that the vast majority of these gave no agglutination reaction with the blood of any patient. Moreover, in the case of those exceptional cultures which gave agglutination, we obtained the reaction not only with a large number of sera from pneumonic patients, but also with a number of normal sera. By consequence we put aside the agglutination test as one that could not be utilised for the purpose of estimating the effect produced by pneumococcus vaccines.

Bactericidal Power of the Serum.

Previous experiments having taught us that the normal human serum when mixed volume for volume with progressive dilutions of the bacterial suspension exerts no bactericidal effect upon the pneumococcus, we elaborated, for the purposes of the present research, a technique which allows of the serum being brought into application upon the pneumococci in a practically undiluted condition. The technique which realises this requirement may here be briefly described.

The apparatus consisted of looped pipettes, such as are described and figured by one of us in his text-book of technique.[5] A 5 c.mm. volume was marked off upon the stem of each pipette by introducing, by the aid of an automatic pipette, 5 c.mm. f mercury into its distal end, and then inscribing pencil mark opposite the upper level of the mercury.

The procedure is then as follows. After resterilising the stem and fitting a teat to the pipette, there is aspirated into the barrel a sufficient quantity of 1 per cent. serum broth to half fill it. There is then aspirated into the capillary stem—which is, when the broth has passed up into the barrel, left empty—5 c.mm. of the serum to be ested. This done, a bubble of air is drawn into the mouth of the pipette; this is then dipped into a suspension of the pneumococcus placed ready to hand in a tubule, and 5 c.mm. of this suspension is taken into the capillary stem. This done, the distal end of the pipette is brought up against the inner wall of an empty sterile tubule placed upright in plasticine, and now the 5 c.mm. of the pneumococcus suspension is, by carefully regulated pressure upon the teat, expelled, while the serum, which follows after, is carried forward to the very orifice so that it may incorporate into itself all the microbes which the suspension leaves behind on the wall of the tube. This accomplished, the serum is, by relaxing the pressure on the teat, carried back into the middle third of the stem of the pipette so as to allow of our sterilising the distal end and sealing it up in the flame.

By this technique we can, if we are employing a series of graduated dilutions of a bacterial suspension. incorporate into our 5 c.mm. volumes of serum graduated numbers of microbes.

Two further points in connexion with the technique remain to be explained:—

(1) After the serum has operated upon the microbes which have been incorporated into it for such period as we may have decided upon (in our experiments the serum was generally allowed to operate upon the microbes for four to five hours) we fit a teat to the tube; break off the tip of the capillary stem; draw up the serum into the nutrient fluid in the barrel of the pipette; and then incubate for 24 hours to ascertain whether the microbes have, or have not, been killed by contact with the serum.

In order to make all go off smoothly in opening up the pipette, we employ one or other of the following devices: (*a*) we draw out the end of the capillary stem into a hair-fine tube before imposing the collapsed teat; or (*b*) we employ a perforated teat; or (*c*) we mark the position of our column of serum by inscribing a pencil mark on the stem of the pipette; then impose a partially collapsed teat; and then, before breaking off the tip of the capillary stem, regulate by pressure on the teat the air-pressure in the pipette in such a manner as to bring our column of fluid back accurately to the level of the pencil mark.

(2) To find out the number of microbes which we are dealing with in our bactericidal estimation we take another series of similarly graduated pipettes, using enough of these to have two or more for each of the more diluted bacterial suspensions. We fill in these pipettes with the same nutrient fluids, and then—varying the technique from that described above only in the respect that we omit the volume of serum—we draw into separate tubes 5 c.mm. of each successive bacterial suspension; expel this, driving forward the nutrient fluid to the mouth of the tube, so as to incorporate into it all the microbes which remain behind on the walls; and then place the series of pipettes in the incubator.

With this method we tested in all 264 samples of serum; 41 of these were derived from ourselves, 20 were derived from natives in different stages of pneumonia, 27 were derived from uninoculated tropical natives, and 176 were derived from tropical natives who had been inoculated once or oftener with different doses of pneumococcus vaccine. In the case of the sera derived from the last two classes of persons, we employed in each experiment the pooled serum of a group of two to five patients, counting this, of course, only as one serum. In the case of the sera derived from pneumonic native patients or from ourselves (who served in each case as controls) each serum was taken in hand separately. The results of the bactericidal estimations thus undertaken may be tabulated as follows:—

TABLE II.

Variety of serum.	Total number of observations.	Number of observations in which no microbes were killed by 5 c.mm. of serum.	Number of observations in which 1 to 3 microbes were killed by 5 c.mm. of serum.	Number of observations in which 3 to 9 microbes were killed by 5 c.mm. of serum.	Number of observations in which over 9 microbes were killed by 5 c.mm. of serum.
Normal European.	41	36	4	1	0
Native pneumonic patients.	20	11	9	0	0
Normal tropical natives.	27	19	8	0	0
Inoculated tropical natives.	176	161	15	0	0

We may obviously conclude from these observations: (*a*) that the normal serum of whites and tropical natives does not exert any appreciable bactericidal effect upon the pneumococcus; and (*b*) that the serum of the natives does not acquire any appreciable *bactericidal* power under the influence of either natural infection or inoculation. At the same time we would point out that, while there is no bactericidal power in the serum which is worth while taking into account in connexion with the study of the effects of inoculation and auto-inoculation, closer study reveals that the sera which have a high opsonic power, and which manifest from time to time such slight bactericidal effects as are shown in the table above, may perhaps possess an appreciable power of inhibiting the growth of the pneumococcus. It may, for instance, be noted that the serum of A. E. W., which in 17 bactericidal experiments gave on three occasions evidence of a slight bactericidal power (5 c.mm. of the serum once killing up to 9 pneumococci), was found when admixed with broth (in proportions of 40 and higher percentages of serum to 60 and lower percentages of broth) to inhibit or retard the growth of the pneumococcus, while the blood of L. C., which gave in 10 bactericidal experiments completely negative results, failed to exhibit any growth-inhibiting power. Similar indications were obtained also with the blood of another laboratory worker (A. R. F.).

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[5] Wright's Technique of the Teat and the Capillary Glass Tube. London: Constable. 1912.

Opsonic Power of the Serum.

We had anticipated that the measurement of the opsonic power of the serum would have furnished us with a valuable method for making an evaluation—*of course, only a partial evaluation*—of the protective substances produced in response to the inoculation of vaccines or auto-inoculation. We obtained, however, from much assiduous work devoted to the measurement of the pneumo-opsonic power of the blood of the inoculated and uninoculated natives, and native pneumonic patients, a quite lamentably small harvest of suggestive and interesting facts. It will be worth while, even if only for the sake of the facts discovered by the way, to set out the difficulties which we encountered and the procedures which we resorted to to circumvent those difficulties.

Difficulties which present themselves in connexion with the measurement of the pneumo-opsonic power of the serum.—(*a*) The *first* difficulty which presents itself is one to which Rosenow has called attention in the first of the very valuable series of memoirs which he has published on the pneumococcus. The difficulty in question lies in the fact that cultures of pneumococcus freshly isolated from pneumonic cases often fail to give any phagocytosis. After having been for some time baffled with this difficulty, one of us (W. P. M.) found a method of circumventing it, which very often does away with the necessity of making a series of subcultures. This expedient consists in making the suspension of the culture in distilled water instead of in physiological salt solution or nutrient broth. The longer, within limits, the water is left in contact with the culture *the greater is the phagocytic* count. The favouring influence of treatment with distilled water manifests itself also in the case of pneumococci which have by subculturing become susceptible to phagocytosis. This is shown in Tables III. and V.

(*b*) A *second* difficulty presents itself in the fact that phagocytosis is restrained by an excess of microbes in the suspension employed in the phagocytic mixture. To give examples: The pooled blood of five laboratory workers was tested in phagocytic mixture with suspensions of the pneumococcus containing respectively 1800, 900, 300, and 100 millions of microbes. The phagocytic counts obtained with these four suspensions were respectively 1·01, 4·96, 3·16, and 2·28 *per cell.* In another experiment in which W. P. M.'s serum was put up with an uncounted suspension of pneumococcus and with 2-, 4-, 8-, 16- and 32- fold dilutions of that suspension, the phagocytic counts of the series of dilutions corresponded to 1; 3·1; 2·65; 1·65; 1·6; and 1·3 respectively.

TABLE III.

Serial number of the patient who furnished the serum.	Phagocytic count obtained with pneumococcus No. 92 in watery suspension.	Phagocytic count obtained with pneumococcus No. 92 in 0·85 per cent. NaCl suspension.
67053	1·32	0·96
89559	1·60	0·58
69416	6·00	4·5
69419	3·14	1·80
69475	1·08	0·27
69352	6·00	4·80

(*c*) A *third* difficulty presents itself in the fact that every strain of pneumococcus—and from this point of view every case of pneumonia furnishes a separate strain—gives a different amount of phagocytosis; and that the order of merit of a series of sera as determined by reference to one strain is not the same as the order of merit as determined by reference to another strain. Evidence of this is *furnished by the typical experiments set out in* Tables IV. and V.

TABLE IV.

—	Initials or serial numbers.	Phagocytic count with pneumococcus strain 135.	Phagocytic count with pneumococcus strain 165.
Laboratory workers.	A. E. W.	1·22	3·20
	W. P. M.	0·78	2·35
	F. C. L.	0·93	1·12
	O. S.	0·78	1·8
Native pneumonic patients.	60134	1·18	0·40
	106654	1·17	2·0
	89807	1·33	1·16
	69875	0·78	1·76

TABLE V.

—	Initials or serial numbers.	Phagocytic count with pneumococcus strain 165 suspended in water.	Phagocytic count with pneumococcus strain 181 suspended in water.	Phagocytic count with pneumococcus strain 181 suspended in 0·85 NaCl.
Laboratory workers.	A. E. W.	5·72	2·10	1·35
	W. P. M.	5·61	2·05	1·10
	F. C. L.	3·28	0·10	0·17
	L. C.	3·66	0·85	0·65
Native pneumonic patients.	60463	6·10	3·10	2·57
	60556	2·83	0·42	0·27
	60586	2·80	0·07	0·0
	60676	1·18	0·0	0·10

A *fourth* difficulty presents itself in the fact that *different subcultures of one and the same* pneumococcus give, even when the suspensions employed contain exactly the same numbers of microbes, quite different amounts of phagocytosis. Differences in the composition of the culture medium here exercise a determining influence. When using cultures grown on agar made up with heated serum we obtained with all sera relatively high phagocytic counts. Cultures grown on agar made up with unheated blood gave, on the other hand, with ordinary sera a low phagocytic count, and with from pneumonia, and oftentimes of uninoculated natives who were living exposed to infection in the Witwatersrand Native Labour Association compound. Here we obtained for the pooled sera values which were, more often than not, much lower than the arithmetical mean of the component sera. A series of quite typical examples are subjoined in Table VII.:—

TABLE VII.

Indication of the source of the serum.	Phagocytic counts of the separate sera.	Phagocytic count of the pooled serum.	Arithmetical mean of the phagocytic counts of the separate sera.
Inoculated native, No. 1	0·38	0·4	0·91
" " " 2	1·06		
" " " 3	0·96		
" " " 4	1·14		
" " " 5	1·3		
Native pneumonic patient	1·75	0·8	1·35
Uninoculated native	0 95		
Native pneumonic patient	0 48	0·4	0·71
Uninoculated native	0·95		
Uninoculated native	0·9	0·72	1·05
Uninoculated native	1·25		
Uninoculated native	2·1	0·9	1·67
Uninoculated native	1·25		

We are unable to furnish any satisfactory explanation of these findings. It occurred to us as a possibility that the phenomena here in question might be asociated with a negative phase, or at any rate with the presence of a pneumococcic antigen in the blood; but despite the fact that we devoted much labour to the study of the question, we were unable to satisfy ourselves on the point. far greater moment and far more urgent was us the task of replacing the method of pooling e sera which had been recognised as fallacious some better method. After a time we succeeded finding such a method. It is a procedure for the oling of a series of phagocytic mixtures.

The essential features are as follows. We take r group of bloods, a group of usually four to six oods. Using then for each blood a separate pillary pipette we make our series of phagocytic ixtures; and working as rapidly as possible we nge these side by side in separate drops on a ass slide. We then take in hand a somewhat rger and more roomy capillary pipette; inscribe a lucial mark on its stem; and then aspirate into is an equal volume of each phagocytic mixture—dividing off the mixtures in each case by a bubble of air, a minute volume of physiological salt solution (taken up from a watch-glass placed ready to hand), and another bubble of air. This done, we seal up the tip of the pipette and insert it into the opsonic incubator. After incubation the phagocytic mixtures are blown out on to a slide so as to form a common drop (the intervening drops of salt solution may if desired be discarded). Finally, after the contents of the drop have been repeatedly drawn up into and blown out from the pipette, so as to effect thorough intermixture, we make our films.

When it is desired to compare the effect of pooling after incubation with pooling before incubation, we leave behind on the slide, when filling in our first pipette, enough of our phagocytic mixtures for filling in a second. Into this second pipette we take up, as before, an equal volume of each phagocytic mixture; but we now immediately blow them out so as to form a common drop; and then, after mixing, draw them up into the pipette—obtaining in this way the equivalent of an experiment with a pooled serum.

On referring to the subjoined table and comparing columns 3 and 5, it will be seen that we obtain by pooling the phagocytic mixtures after incubation values which show an all but exact correspondence with the values obtained by averaging the phagocytic counts obtained when the constituent sera are separately tested. And it will be seen on referring to column 4 of this table and to column 3 of the foregoing table, that we obtain with phagocytic mixtures pooled before incubation just such results as are obtained with pooled sera.

TABLE VIII.

Indication of the source of the serum.	Phagocyte counts separately.	Arithmetical mean of the phagocytic counts of the separate sera.	Phagocytic counts of phagocytic mixtures pooled before incubation.	Phagocytic counts of phagocytic mixtures pooled after incubation.
Uninoculated native No. 1	1·9	2·73	1·28	2·72
" " " 2	2 62			
" " " 3	3·08			
" " " 4	2·64			
" " " 5	3 4			
Uninoculated native No. 1	0·57	1·2	0·94	1·26
" " " 2	1·47			
" " " 3	1·86			
" " " 4	0 90			
Uninoculated native No. 1	1·92	1·93	1 94	1.84
" " " 2	1·16			
" " " 3	1·66			
" " " 4	2 12			
" " " 5	1·7			
" " " 6	3 04			
A. E. W.	4·5	3·74	4·48	4·1
W. P. M.	3·5			
F. C. L.	3·23			

Phagocyto-Bactericidal Power.

Reverting to the line of thought we were pursuing before entering upon the above excursus, we now pass on to consider yet another antibacterial attribute of the blood. We have seen that the data furnished by measurements of the pneumo-opsonic power were not sufficiently consistent from one day to another to allow of their being employed for the selection of the *optimum* dose of pneumococcus vaccine. This made us cast about for some other method of blood examination which should be competent to do what the measurement of the opsonic index had failed to do. In this way we came upon the method which is here to be described. We may, for reasons which will presently appear, designate it by the name of the "phagocyto-bactericidal method."

With regard to this method we may point out at the very outset that while it will, as it seems to us, help to illuminate the darkness which covers the mechanism of the destruction of microbes in the organism, we recognise that it would be difficult to apply on a large scale outside the four walls of a laboratory. For this reason, and because by the time that we had alighted upon the method our laboratory investigations were drawing to a close, and also because we had already obtained from the opsonic method sufficient information to allow of our now pursuing our investigations, so far as they related to prophylaxis, by the method of mass-experiments, we did not ourselves employ the phagocyto-bactericidal method for the determination of the optimum dose of vaccine.

What pointed the way to the investigation of the phagocyto-bactericidal power of the blood was the fact that we had failed to find in the films which came under close inspection in connexion with our opsonic measurements any indication of an intracellular digestion of pneumococci in the phagocytes.

It was natural to pursue these observations by making cultivation experiments, employing in these the looped pipettes with the original bactericidal technique already referred to. On actually making experiments we found, with absolute uniformity, that there does not occur in the ordinary phagocytic mixture any destruction of pneumococci, even when the microbes are left in contact with the serum and corpuscles for as long as 24 hours. It immediately suggested itself to employ the modified bactericidal technique, which permits of working with practically undiluted blood,[7] and to experiment with (*a*) unaltered blood issuing direct from the capillaries; (*b*) defibrinated blood—i.e., leucocytes and serum obtained by stirring up the clot in an ordinary blood capsule; (*c*) human and horse blood in which clotting had been deferred by the action of cold; (*d*) decalcified and recalcified bloods; (*e*) plasma separated from the unaltered blood by rapid centrifugalisation; and (*f*) the residue of corpuscles which remains over after pipetting off the plasma. We propose elsewhere to treat fully of the results of these and other experiments. We accordingly set down here only what is fundamental and what relates specifically to the problem of the natives' defective resistance against pneumococcic infection.

The following experimental results seem to us from these points of view specially deserving of attention:—

(1) We find that when blood fresh from the capillaries operates upon the pneumococcus it invariably kills quite large numbers of pneumococci. We have obtained in this way with our own bloods a destruction of pneumococci equivalent to a destruction of 600,000, and on one occasion to 1,000,000 pneumococci, by 1 c.c. of blood.

(2) In connexion with the staphylococcus—a microbe which is not destroyed either by undiluted serum, nor yet by the serum and white blood corpuscles in the ordinary phagocytic mixture—a bactericidal effect, but on a much smaller scale than that with the pneumococcus, is obtained by the operation of the unaltered blood.

(3) In experiments made by our fellow-worker, Captain S. R. Douglas, in which serum and unaltered blood were respectively brought to bear upon the tubercle bacillus, a definite bactericidal effect was obtained with the whole blood, but not with the serum. There remains, however, to be studied in connexion with the tubercle bacillus—for the results obtained with it have not been uniform—the influence exerted by the age and strain of the culture and by the length of exposure to the action of the blood.

(4) No bactericidal effect upon the pneumococcus is exerted by the plasma which has been separated by centrifugalisation from the unaltered blood. We conclude from this that the phagocytes are an essential factor in the bactericidal action of the whole blood, and that action is a phagocyto-bactericidal action.

(5) With the corpuscles and serum of defibrinated blood, and with the decalcified blood we have obtained practically no bactericidal effect. We obtained some bactericidal effect with recalcified blood. We infer from this that contact with the unaltered plasma, or possibly the chemical change associated with blood coagulation,[8] is an essential factor in the destruction of the microbes.

(6) We obtained no bactericidal effect with either human blood or horse blood which had been cooled over ice.

(7) While we obtained in a uniform manner with our own unaltered bloods a destruction of considerable numbers of pneumococci, we did not in four series of experiments carried out on uninoculated and inoculated tropical natives obtain in any instance any considerable phagocyto-bactericidal effect upon the pneumococcus.

EXCURSUS NO. II.—*On the Racial Differences between the Tropical African Native and the European with respect to the Antibacterial Effect which their Bloods exert upon the Pneumococcus.*

We have in the course of the foregoing study of the antibacterial effects exerted by the blood upon the pneumococcus made frequent reference to the fact that the antibacterial power of the native bloods was less than that of our own bloods. Seeing that we have perhaps here the explanation of that high incidence-rate and great fatality of pneumonia, pneumonic cerebro-spinal meningitis, and other pneumococcic infections among African natives congregated upon the Rand and elsewhere in labour camps and compounds, it will perhaps be of interest to gather together the results of the observations which we made in the course of our work on the differences between native and European bloods.

We found in our study of the bactericidal and growth-inhibiting powers of the serum only slight indications of a difference between the sera of the African native and the European. If there was such a difference the advantage lay with the European.

In connexion with our measurements of the opsonic power of the blood, there was no longer any possibility of doubt. Here, as will be seen from the results collected into the subjoined table, very distinct differences emerged.

TABLE IX.—*Showing the Pneumo-opsonic Indices obtained by Dividing in Each Case the Arithmetical Mean of the Phagocytic Counts of a Group of Europeans (Laboratory Workers), with the Average Phagocytic Count* of a Group of Uninoculated Tropical African Natives.*

Serial number of the strain of pneumococcus employed.	Number of experiments undertaken with it.	Opsonic indices of groups of uninoculated natives.
83	4	0·8, 0·7, 0·5, 0 2
92	28	0 1, 0·1, 0·2, 0·3, 0·2, 0·4, 0 3, 0·4, 0·1, 0·4, 0·3, 0 3, 0·4, 0 4, 0 6, 0·25, 0·4, 0 9, 0·7, 0·4, 0 3, 0·4, 0·6, 0·2, 0 5, 0 4, 0 9, 0·7
135	2	1·0, 0·8
165	11	0 8, 0·8, 1·0, 0·5, 0 6, 0·6, 0 6, 0·8, 0·9, 0·9, 1·1
19	1	0 2
172	1	1·1
77	1	0·4
131	1	0 4
9	1	1 0
174	1	0·3
62	1	1·2
96	1	1·2
38	1	0 44

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[7] It may be explained that the fact of the blood clotting in the capillary stem is, from the point of view of that technique, perfectly indifferent.

* This count was obtained by pooling, in accordance with the [illegible] exudation clots in the alveoli of the [illegible] other hand, that enormous numbers of pneumococci are killed off in that exudation.

The findings which are set forth in this table and its teaching may be summarised as follows:—With eight of the 13 strains of pneumococcus which were tested, the sera of the uninoculated tropical natives (it will be remembered that a certain number of infected natives must have been included among our uninoculated) gave opsonic indices of less than one, and generally of much less than one. With the remaining five strains the sera of the uninoculated tropical natives gave indices of one or a little above or below one.

The strains which brought out differences as between tropical natives and Europeans were in all cases virulent strains, in the sense that when originally isolated they failed to give phagocytosis; and could only, by repeated cultivation on artificial media and suspension in water, be brought into a condition to give phagocytosis. Moreover—and the significance of this will not be missed—when these strains began to give phagocytosis they in every case gave it, at first, only with European sera. After a time they began gradually to give it also with the sera of uninoculated tropical natives. The fact that strain No. 92 continued for a long time to differentiate sharply between native and European bloods is, we think, due to our having nearly always grown this strain on agar made up with unheated blood.

With regard to the strains of pneumococcus which failed to bring out differences between native and European bloods these were presumably non-virulent strains. They were, at any rate, either strains which gave phagocytosis immediately on isolation from the patient or strains which had been subcultured without special precautions for a long time outside the body.

Compressing all the above into a sentence, we may say that the teaching of the table resolves self into this: that where in connexion with the eumococcus a difficult task is set to the blood, he native is far behind the European, but that where an easy task is set he draws up level.

Having considered the facts which relate to the uninoculated native, we have now to carry our thoughts back to those which relate to the native who is making immunising response to inoculation or auto-inoculation, and to ask ourselves what is the precise significance for the problem here under discussion of the observation that it is only exceptionally that the opsonic index of the native who is making immunising response comes up to the arithmetical mean of the pneumo-opsonic indices of the Europeans who served as controls in these measurements. The full significance of this fact comes home to us only when we realise that it is, not so much the original content of a patient's blood in protective substances, as his capacity for generating these in response to microbic invasion which gives the measure of his power of combating infection. Once this principle has been grasped it becomes clear that there is furnished to us, in the comparison between the opsonic power of the normal white man and that of the native who is making active immunising response, a better measure of the native's defect of resistance than is afforded by the comparison between the opsonic power of the normal white man and that of the normal native.

But there will perhaps here suggest itself the question as to whether there is really anything to indicate that the correlation between the native's relatively low opsonic index and his relatively high susceptibility to pneumococcus infections is not an accidental association. A comparison between the native's opsonic power to staphylococcus with that of the white man would go far to settle this point. For by common consent the native is a good "subject for operation"—probably a better subject than the European. This is as much as to say that the native offers good resistance to the common microbes of wounds—a state of things which ought, if there be a causal correlation between the opsonic power of the blood and the power of fighting a microbic infection, to go together with a satisfactory opsonic index. We made this almost critical investigation, repeating it four times, with the results which are set forth in the subjoined table:—

TABLE X.—*Showing the Results of a Comparison between the Staphylo-opsonic Power of Europeans and Tropical African Natives.*

Observation No. 1.		Observation No. 2.	
Indication of the source of the blood.	Phagocytic count.	Indication of the source of the blood.	Phagocytic count.
A. E. W....	1·87	A. E. W. } pooled	
W. P. M.	2·28	W. P. M. } serum[*] ...	1·68
		F. C. L. }	
Native No. 1	2·16	Natives, Group No. 1,[†]	
" " 2	2·02	pooled serum	2·1
" " 3	2·73	Natives, Group No. 2,	
" " 4	2·81	pooled serum	1·86
" " 5	2·0	Natives, Group No. 3,	
" " 6	2·1	pooled serum	2·72
" " 7	2·58	Natives, Group No. 4,	
" " 8	1·91	pooled serum	1·9

Observation No. 3.		Observation No. 4.	
Indication of the source of the blood.	Phagocytic count.	Indication of the course of the blood.	Phagocytic count.
A. E. W. } pooled		W. P. M.	4·12
W. P. M. } serum[*] ...	2·74		
F. C. L }			
Native No. 1	3·3	Native No. 1	3·96
" " 2	4·72	" " 2	3·88
" " 3	3·64	" " 3	4·88

[*] It will be remembered that it has been shown in Excursus No. 1 *supra*, that when dealing with normal bloods the phagocytic count of the pooled serum is equivalent to that of the highest of the constituent sera.

[†] This and the following groups consisted of 4 to 6 natives.

The above results clearly lend very strong confirmation to the view that the native's deficiency in pneumo-opsonic power does stand in some causal relation with his low resisting power to pneumococcic infections.

Finally, it would be difficult to doubt that we have in the defect of pneumo-phagocyto-bactericidal power to which attention was called above a native character which stands in direct causal relation to the ravages which the pneumococcus makes among them.

(To be concluded.)

ROYAL ALEXANDRA HOSPITAL, BRIGHTON.—An interesting ceremony recently took place at the Royal Alexandra Hospital for Sick Children, Brighton, when the gift of a complete X ray apparatus was formally received by the committee, and a tablet was unveiled recording "The Louise Sassoon Electrical and X Ray Department." The opening ceremony was performed by Dr. E. Hobhouse in the presence of a numerous company, and a demonstration was given by Mr. W. Barrington Prowse, honorary skiagraphist of the hospital.

A Clinical Lecture

ON

SOME LATE MANIFESTATIONS OF INHERITED SYPHILIS.

Delivered at the London Hospital

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GENTLEMEN,—I propose to direct your attention in this lecture to a type of eruption occurring in inherited syphilis which is of the utmost importance for the following reasons: it is frequently mistaken for another disease—viz., lupus vulgaris—and leads to terrible deformity which is only paralleled by certain advanced cases of rodent ulcer of the face.

CASE 1.—The little girl now shown (Fig. 1) is 16 years of age, though her aspect would suggest that she was about 12. She was sent to the London Hospital for treatment by the Finsen light, it being believed that her condition was common lupus. She gave the following history. Five or six years ago she received a severe blow upon the nose from the fall of an iron pipe. The skin was not broken, but some months later an ulceration started at the inner canthus of the left eye. Under treatment this healed up. A little later the nose became much swollen, and an operation was done about three years ago for the removal of *dead bone*. From that time onwards pieces of dead bone have been removed from time to time. For several months the patient was an inmate of a provincial hospital, and later while attending as an out-patient she had some applications of the X rays, with the result that a portion of the ulceration at the periphery healed. About 12 months ago an ulcer appeared upon the right arm. Nine months ago a similar destructive ulceration appeared upon the forehead.

Family history.—The father is alive and well, the mother is dead. The patient has one brother, aged 36, and sisters aged 31, 27, and 20, all apparently well. The youngest child of the family, a boy aged 15, has had "sores" on the legs. Six other children are said to have died from "fits."

Condition on admission.—You will see that there has been extensive destruction of the nose, of which only a portion of the right ala remains. I especially call your attention to the fact that not only has the cartilage disappeared but also a large part of the bone both of the sides of the nose and of the septum. When the girl was admitted the cavity was in a very foul condition, the ulcerated areas being covered with pale greyish sloughs and muco-pus. You will also notice that there is a roughly triangular ulcer on the forehead extending from the eyebrows and root of the nose to beyond the hairy margin of the scalp. This was very dirty and was exuding a dirty pus. There are superficial scars upon each cheek, and on them are a few telangiectases such as one meets with in cases that have been submitted to the X rays. The right forearm is immovably flexed upon the arm, at about a right angle. Around the elbow and on the inner aspect of the limb are large irregular ulcers with raised margins, the bases being covered with dirty sloughs. (Fig. 2.)

The development of the girl is very poor. She is small for her age, and has a childish appearance. There is no enlargement of the liver or spleen. The eyes are unaffected, and the hearing is normal. There are no Hutchinson teeth. The Wassermann reaction is positive.

On Sept. 25th, 1913, she received an intravenous injection of neosalvarsan, 0·3 gramme, and was also put on a mixture containing potassium iodide. Four days later the ulceration on the forehead had very much improved and the ulcers on the arm were cleaner. On the 30th she received a second injection of neosalvarsan, 0·45 gramme, also intravenously. The improvement was remarkable, and on Oct. 2nd the ulcer on the forehead had almost healed.[1] A radiograph taken by Mr. S. Gilbert Scott showed that there had been severe damage to the elbow-joint, a damage which suggested severe trauma or advanced tuberculosis.

CASE 2.—This little girl is now 16 years of age, though she looks like a child of 11 or 12. She came first under my care in October, 1908, and I am showing the photograph of her condition then. (Fig. 3.) Her history is interesting. She had been attending at a dispensary for a long time for supposed tuberculous peritonitis, and had had the usual treatment. *Three weeks* before her admission to the hospital the nose began to swell, and rapidly ulcerated, the ulceration extending on to the upper lip. She was sent to me as a case of lupus for the Finsen light treatment.

Condition on June 16th, 1908.—There was an extensive ulceration which had destroyed the greater part of the nose. This ulcer had an irregular outline and its base was covered with greyish sloughs and dirty muco-purulent discharge. Extending from the under surface of the nose to the margin of the lip was another deep ulcer with raised margins and an irregular sloughy base. There was also a dirty ragged hole in the hard palate in the middle line.

The *family history* was instructive. There had been ten children, and six of these were alive. One infant was born dead, and three died within the first few months after birth. Three of the living children had had infantile eruptions, almost certainly syphilitic, and one had an ulcer in the roof of the mouth when 3 years of age. The mother attends here, and I may say in passing that she has a positive Wassermann reaction.

The little girl, in addition to the lesions on the nose, palate, and lip, had an enormously swollen abdomen. This was found to be due in part to ascites, but chiefly to an enlarged liver, which extended to the umbilicus, and a spleen which reached as low as the left iliac crest. These have now resumed their normal size.

The child was admitted into the ward and was treated by mercurial inunction (this was in 1908). In three weeks the ulcers on the nose and the upper lip had healed, but unfortunately left disastrous scars. The hole in the palate was a long time healing, as several pieces of necrosed bone came away during the year after she had been in hospital. There is now a large cavity, which at some time later may be closed by an obturator. The girl shows two characteristic Hutchinson teeth, but she is not deaf, and there is no interstitial keratitis.

CASE 3.—I am showing also photographs of another case, that of a boy aged 15, under my care

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[1] In the ensuing fortnight all the ulcers had healed with the exception of a small area on the inner side of the right forearm. This has since cicatrised.

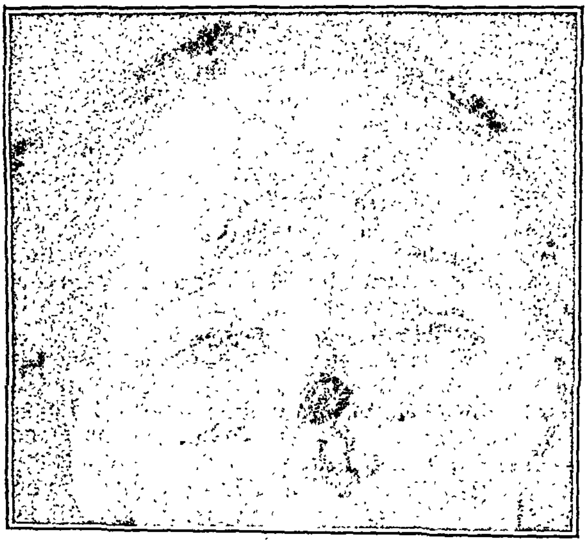

FIG. 1.—Extensive destruction of the nose and gummatous ulceration of forehead.

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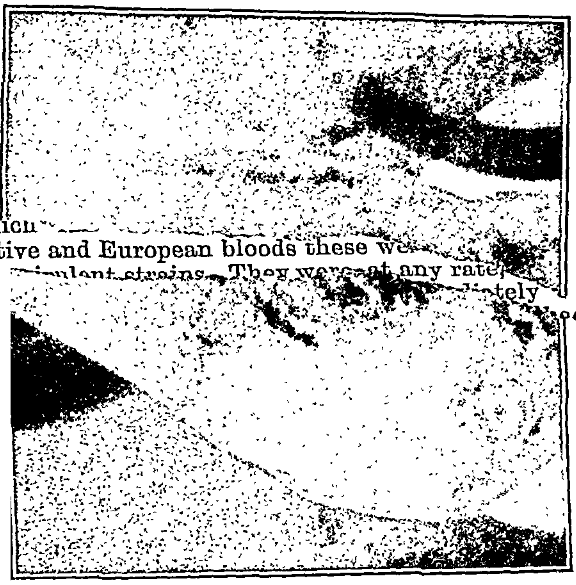

FIG. 2.—Left elbow showing ulceration.

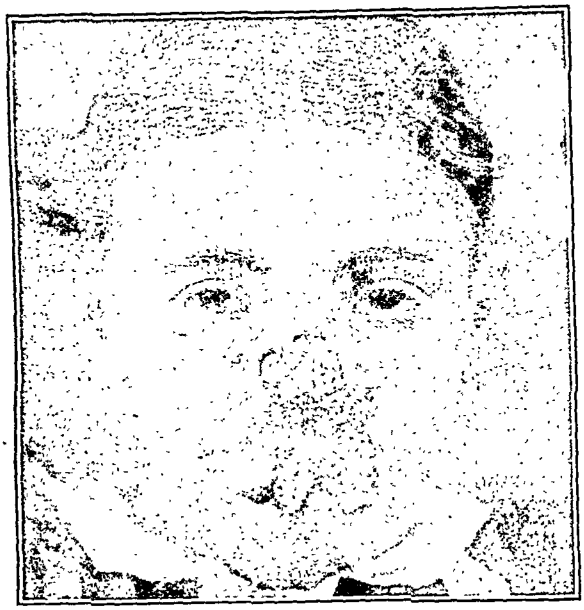

FIG. 3.—Ulceration of a few weeks' duration.

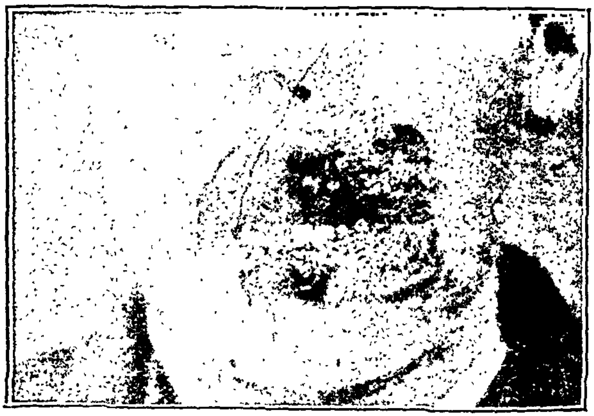

FIG. 4.—Ulceration of lips and cheek of three months' duration. Hutchinson's teeth.

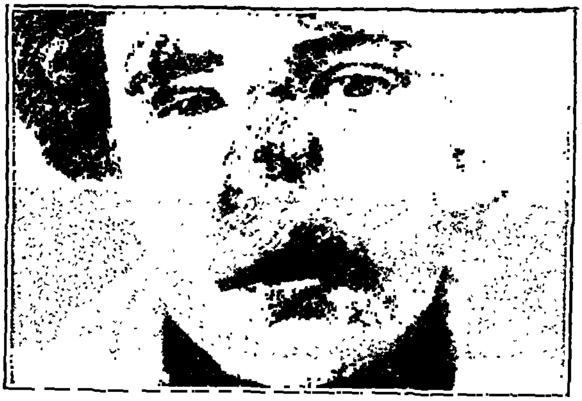

FIG. 5.—Rapid destruction of nose and lip. Gummatous ulcer of eyebrow.

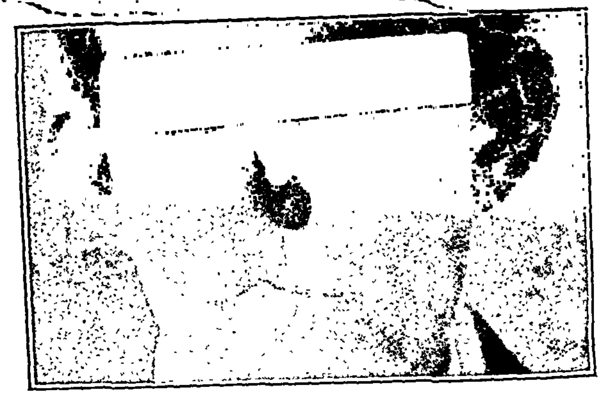

FIG. 6.—Complete destruction of nose and palate.

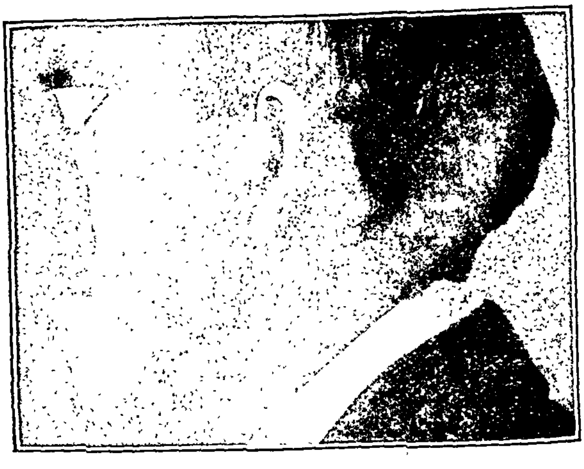

FIG. 7.—Profile of patient shown in Fig. 6.

in 1908. He was the eldest of a family of five, his four sisters being quite well. The disease began on the right cheek with the formation of a "lump" which "burst" and discharged. Eventually the ulceration spread over the cheek as high as the outer canthus and lower lid and across to the middle line of the nose. It was scraped, and the boy had medicine; under this treatment the ulcer healed. *Three months* before admission a sore appeared upon the upper lip and gradually spread; *one month* before admission the lower lip began to swell and the swelling ruptured to form an ulcer which rapidly spread. (Fig. 4.)

On admission there was extensive scarring of the right cheek leading to ectropion, and the whole of the right ala nasi had been destroyed. The extent of the ulceration around the mouth is shown in the figure. Once more let me impress the point that this destruction of the upper lip had taken place in three months, and that on the lower lip in one month. There were characteristic Hutchinson teeth well seen in the figure. There was no interstitial keratitis and the hearing was normal. The abdominal organs presented no sign of disease. The bones were also unaffected. This case was also sent to the hospital with the diagnosis of lupus vulgaris.

The boy was treated by mercurial inunction, and 5-grain doses of potassium iodide. The ulcers were fomented and dressed with an ointment of peroxide of zinc. The inunction was continued for 16 days, when the gums were slightly affected. The ulcers had entirely healed in one month. The boy, I may add, gave a negative Calmette reaction to tuberculin.

CASE 4.—This is the photograph of another case of the same type. The patient was a girl, 16 years of age. She also showed the infantilism which I have mentioned in the first two cases. The eruption began when she was 13 years old, on the side of the nose, and gradually spread. She had attended a throat hospital, where an operation was performed. Six weeks before her admission an ulcer developed upon the left side of the upper lip, and about the same time a swelling appeared at the outer part of the right eyebrow, and this swelling subsequently broke down into an ulcer.

On admission the whole of the ala nasi on each side and the lower part of the nose had been destroyed, and the area was covered with dirty crusts of dried pus. There were a similar ulcer covered with crust at the left side of the upper lip and a large brownish crust, from the side of which pus was exuding, at the outer side of the right eyebrow. (Fig. 5.) There was a ragged hole in the hard palate. The tonsils, uvula, and the whole of the soft palate had disappeared. The upper incisor teeth were of the Hutchinson type. There were no visceral complications, but there was interstitial keratitis in both eyes. The hearing was not affected. Under mercurial inunction and iodides the ulceration healed completely in 21 days. The lesions were dressed with iodoform ointment. The girl has been provided with a false nose, and this has improved her appearance remarkably. This patient was also sent to the Finsen light department as a case of lupus vulgaris.

CASE 5.—The last patient I have to present is one some of you may remember as being under treatment last year. He was admitted on Sept. 24th, 1912, and illustrates the extent of the deformity seen in some of these untreated cases. The history was that when the patient was 8 years of age he had a blow on the nose, and that 12 months later a "lump" which had formed "broke." Ultimately a huge cavity developed, the whole of the interior of the nose and the hard palate coming away with the formation of hard crusts. There was also an ulceration of the upper lip, the scars of which are well seen in the photographs. (Figs. 6 and 7.) He was sent to me as a case of lupus, there being still some discharge from the interior of the nose. The Wassermann reaction was positive. The patient had two injections of neosalvarsan, which speedily healed up an area of ulceration in the remnant of the nasal cavity.

Mr. F. M. Farmer kindly saw the patient for me with a view to providing some mechanical apparatus which could be made to supply the place of the palate, but this was impossible. A false nose and lip to replace the areas destroyed were the only possible method of improving the patient's condition. This has been provided by Mr. Brook, of Halifax, who had helped us in similar cases.

The points I wish specially to bring out in these cases are: (1) The patients are from 8 to 15 years of age. (2) A history of injury is common. (3) The *rapidity of the destruction is quite unlike* that met with in lupus vulgaris. Syphilis produced destruction in a few weeks which the tuberculous process takes years to accomplish. (4) The destruction of bone. I have seen many cases of lupus, but lupus does not destroy bone. It eats away cartilage but it does not cause necrosis of bone. The fact that the patient has noticed the presence of dead bone in the discharge from a nasal or palate ulceration is valuable evidence in favour of syphilis. Lastly, I would comment upon the remarkable response of these destructive lesions to antisyphilitic treatment, whether salvarsan, neosalvarsan, or mercury. In any case of doubt I would urge you, in view of the rapidity of the destruction, not even to wait for the Wasserman reaction, but to start antisyphilitic treatment at once. You will do no harm if the patient is tuberculous; you may do irreparable harm by waiting even for a few days if it is syphilitic.

GLYCOSURIA IN THE COURSE OF AFFECTIONS OF THE LIVER: HEPATIC DIABETES.

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AND
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SINCE Claude Bernard's well-known experiments no one doubts that the liver plays an essential rôle in glycogenesis. Claude Bernard went so far as to say that the cause of diabetes was to be localised in the liver. After him many writers have said that the cause of diabetes, or at any rate of a certain class, was due to hepatic disorders. Lécorché held the opinion that this affection was due to an *exaggeration* of the hepatic functions. Seegen, Pavy, and Schiff admitted the existence of a hepatogenous diabetes. Glénard has laid great stress upon the lesions found in the liver in diabetes, and has attributed to them the prominent rôle in the causation of the disease. Lately Gilbert was of the opinion that there were two types of diabetes caused by functional hepatic disorders: one due to *hyperhepaty*, the other to *hypohepaty*. However, some writers, having frequently found the liver untouched in diabetics, do not attribute to it such a preponderant rôle in the causation of diabetes. This being so, we thought it would be of some interest again to raise the question from a clinical point of view and try to determine the relations between hepatic disorders and diabetes.

We will consider the question under five headings: 1. The glycosurias that occur *during the course* of hepatic lesions. 2. The hepatic congestions in overfed people. 3. The post-infectious or toxic hepatic disorders. 4. The "diabète sans dénutrition" with enlarged liver of the overfed. 5. The hepato-pancreatic cirrhosis with severe diabetes.

1. *Glycosurias accompanying hepatic lesions.*—In cirrhosis and other lesions of the liver (cancer, cardiac liver) the glyco-regulator function is generally disturbed, but not sufficiently to cause what may be called diabetes. Most frequently the alimentary glycosuria test has to be resorted to in order to show the existing glyco-regulator trouble. Sometimes, in more advanced troubles, glycosuria is spontaneous, but intermittent, moderate in amount, and unaccompanied by other symptoms of hyperglycæmia. This form of glycosuria is more often seen at the beginning of cirrhosis of the liver than at a later stage. Several of our cases demonstrate the fact.

2. *Hepatic congestions in the overfed.*—People indulging in overfeeding, especially with meat, sometimes develop a glycosuria accompanied by hepatic congestion and disturbances in the functions of the liver. This type may be illustrated by the following cases.

CASE 1.—The patient, 29 years of age, had been losing flesh and strength for a year; he was suffering from lumbar pains, and he sought medical advice because he was afraid of phthisis. His complexion was subicteric, the tongue was dirty, and the stomach was dilated. He passed two soft motions a day. The liver was enlarged, measuring 14 centimetres in the mammary line; other organs sound. The urine was scanty (1 litre) and contained a large amount of total nitrogen ($18\frac{1}{2}$ grammes) and of urea (35 grammes). There was a large excess of urobilin and indican present, and some traces of biliary pigments. Six grammes of glucose were found. The patient confessed that he ate too much meat. This was to be suspected from the analysis of his urine. He was placed on a lacto-vegetarian diet and on a Vichy water cure. In July he felt better. He passed 3 litres of urine per day, containing 7·8 grammes of total nitrogen, 15 grammes of urea, and small quantities of urobilin and indican. The glycosuria ceased; the liver was not so big and measured only 12 centimetres. During September the improvement was maintained. He had put on 2 kilogrammes in weight and there was no glycosuria. In December he was better. The weight had increased by 5 kilogrammes. The liver was smaller and measured only 11 centimetres. Later on the conditions were much the same. If the patient indulged in any alimentary excess, the hepatic disorders reappeared, the liver enlarged again, urobilinuria and glycosuria reappeared, and traces of albumin could be detected in the urine. These symptoms disappeared readily with a lacto-vegetarian diet.

CASE 2.—The patient, 34 years of age, after presenting some signs of tuberculosis in the lungs in 1900, was sent to the South of France for a rest, and there was submitted to a cure of superalimentation. Besides the ordinary diet he used to take every day 12 raw eggs, 700–800 grammes of raw meat, and to drink two small claret-glassfuls of cod-liver oil Under the influence of this diet he improved and increased rapidly in weight.

In 1902 a fresh outbreak of tuberculosis forced him to overfeed again, since which he had eaten a good deal of meat At the beginning of 1907 he had symptoms of muco membranous enteritis. There were very severe pains in the upper part of the ascending colon that suggested appendicitis, and the advisability of an operation was considered. The urine was examined and glycosuria was occasionally found. The patient was then seen by one of us. The tongue was coated, there was a bitter taste in the mouth, and the breath was foul. Stomach normal; liver slightly enlarged. The urine contained some reddish-brown biliary pigment. The lesions in the lungs were apparently completely cured. A diagnosis of gastro-enteritis with congestion of the liver caused by overfeeding was made. A mixed light diet caused immediate improvement.

CASE 3.—The patient, 48 years of age, of sedentary occupation, was a heavy eater, and drank a considerable amount. His general health had been good. For some time he had been complaining of a dull sensation of pain in the lumbar region and had had œdema in his ankles. Examination of the urine revealed a slight amount of glycosuria and the existence of a reddish-brown biliary pigment. He was a rather stout man, and looked older than his age. His complexion was subicteric, and some signs of arterial hypertension were found. The liver was enlarged. A reduction in the amount of the diet quickly diminished the glycosuria. Under the influence of a lacto-vegetarian diet, exercise, and a Vichy water cure he lost some weight and felt more supple and fit. The glycosuria had disappeared in five weeks. The liver had resumed the normal size, and the arterial tension had also fallen.

The story was identical in all these cases. A subject indulges in overfeeding, especially with meat. Sooner or later supervenes a congestion of the liver with functional hepatic disturbances and glycosuria. The patient thinks he is diabetic. In these cases the glycosuria is moderate in amount and unaccompanied by the chief symptoms of hyperglycæmia. It is noteworthy that this glycosuria disappears at the same time as the other hepatic disorders under the influence of a lacto-vegetarian diet and a Vichy water cure—that is to say, under a diet and treatment that give the liver rest and excite the functions of the hepatic cell.

To treat this class of glycosurias with a meat diet and reduction in the amount of the carbohydrates absorbed would be simply a mistake. Far from curing the existing glycosuria, this diet, on the contrary, would increase it.

Such cases should not be called diabetes. Nevertheless, they are on the borderland of the disease, and if the patients had continued to overfeed perhaps some of them would later have become true diabetics.

3. *Post-infectious or toxic hepatic disorders.*—After acute infectious diseases a complexus of hepatic disorders accompanied with glycosuria that reminds one of diabetes is sometimes seen.

CASE 1.—The patient, 32 years of age, was suffering from suppurative tonsillitis with fever. At the outset of the symptoms she had epistaxis and vomited bile. In the last stage of the disease slight glycosuria accompanied with a large amount of urobilin, bile pigments, and ammonia was seen. For several days the urine contained reducing substances in large quantity. These symptoms then disappeared.

CASE 2.—The patient, 56 years of age, was asthmatic and dyspeptic. He ate much sugar. He was suffering from measles. During the course of that disease he lost flesh rapidly, and in the urine 5 grammes of glucose, 10 centigrammes of albumin, and some urobilin were found. The liver was slightly enlarged and tender on palpation He was afraid of diabetes, though presenting no other symptom of hyperglycæmia besides the glycosuria A mild lacto-vegetarian diet caused the glycosuria to disappear.

These facts can be explained as follows. An affection attacks the various functions of the liver, especially the glyco-regulator function. This will cause a glycosuria which as a rule is moderate in amount. There is here a slightly more advanced stage of what is seen in the course of acute infectious diseases in which the alimentary glycosuria test usually shows the existence of glyco-regulator trouble.

Between a simple alimentary glycosuria and a *post-infectious diabetes a series of transitory stages* exist. It will easily be conceived that with a subject otherwise predisposed or already slightly affected a fresh infection will determine a true diabetes. One of us has given some illustrations of this fact.

4. "*Diabète sans dénutrition" with an enlarged liver in the overfed.*—This "diabète sans dénutrition" supervenes in those who are in the habit of overfeeding themselves, and is often accompanied with an enlarged liver and disturbances in the functions of that organ.

CASE 1.—The patient, 45 years of age, was a very heavy eater and took no exercise. The abdomen was large and fat. He had suffered from pains in the joints, apparently of a gouty nature, and had had renal colic. He had been a diabetic for several years. On an average about 100 grammes of sugar were now found in the urine. From time to time he had an attack of post-prandial biliary diarrhœa. The liver was slightly enlarged. The patient was of subicteric complexion. A diet with reduction of carbohydrates caused a rapid disappearance of the glycosuria and produced a slight loss of weight. At the same time the digestive troubles ceased.

CASE 2.—The patient, 51 years old, lived a sedentary life, ate a great deal, and drank one litre of wine a day. He was very obese and had weighed as much as 104 kilogrammes, but now he weighed 96 kilogrammes. In 1901, *while suffering from furunculosis, he had an attack of* glycosuria, passing 69 grammes of sugar a day. He was put on a special *régime*, and after a month's treatment he quite recovered. Later, however, the disease again manifested itself, and in spite of a mineral water cure he passed between 5 and 15 grammes of sugar a day. Digestion was slow. The liver was hypertrophied and reached below the costal margin. The urine indicated an overfed condition and [illegible] 1·10 grammes of uric acid; and traces of albumin. On [illegible] glycosuria and albuminuria quickly disappeared and the patient lost slightly in weight.

CASE 3.—The patient, 49 years old, ate and drank a great deal. He was obese and suffered from diabetes. When 39 years old, on being examined for life insurance, he was *found to be passing sugar in the urine. This disappeared* rapidly. When 46 years old, on being again examined, the amount of sugar in the urine was found to be 30 grammes a day, and in spite of careful diet the glycosuria persisted and varied between 30 and 60 grammes a day. The patient was obese, easily tired and out of breath, and complained of his mouth being dry. He went to stool twice daily, the motions being soft. The liver was enlarged, the anterior inferior border reaching 5 centimetres below the costal margin. The patient's complexion was subicteric. He suffered from hæmorrhoids, and the urine contained 41 grammes of glucose, together with urobilin and albumin. Being put on a reduced carbohydrate diet, the glycosuria disappeared after four days, the albumin was reduced to a trace, the patient lost a little weight, and his general condition was much improved. Subsequently the condition remained stationary. The liver was still hard and enlarged. The urine contained traces of albumin and urobilin. However, directly he altered or increased his diet a glycosuria amounting to several grammes made its appearance.

5. *Hepato-pancreatic cirrhosis with severe diabetes.*—Lastly, there is a group of diabetes connected with hepato-pancreatic cirrhosis. The *diabète bronzé* is of this class. Here the glycosuria is severe and accompanied by nitrogenous waste and often by acidosis; the hepatic cirrhosis is well marked; the cirrhosis of the pancreas is revealed by more or less marked signs of pancreatic insufficiency. Hence, in these cases there is a simultaneous evolution of a severe glycosuria and of a lesion of the liver and pancreas, but it is impossible to decide whether the liver or pancreas plays the first rôle in the pathology of the diabetes.

Such are the facts, and they show that in the course of hepatic affections one may observe every degree of glyco-regulator disturbance—from the simple alimentary glycosuria induced by the Colrat's test to the most characterised diabetes.

The boundary between diabetic glycosuria and non-diabetic glycosuria is difficult to determine. A hardly appreciable transition leads from one to the other. Achard and Weil have shown that a certain class of arthritic people who have later on become diabetics began by presenting an alimentary glycosuria. Reciprocally, we have seen true diabetics who, after presenting the complete hyperglycæmic syndrome, when put on a well-regulated diet have only had a very small amount of glycosuria, and finally no glycosuria at all, except when it has been induced by an injection of glucose.

Is there any necessity to group some of those facts under the name of hepatic diabetes? By all means, for it is always possible to argue about that interpretation, since glycosuria is a sign of both hepatic insufficiency and pancreatic, thyroid gland, or nervous insufficiency. Besides, it seems very difficult indeed to say that of all the organs of the glyco-regulator system the liver is the only one attacked. However, it appears to us that the name of hepatic diabetes should be reserved for a certain class of cases in which the alteration of the liver is manifest.

This hepatic diabetes supervenes, as a rule, in heavy eaters. It is preceded often by obesity, sometimes by gout or renal lithiasis. It is a mild diabetes without any nitrogenous waste, corresponding to the classical type of the *diabète gras* or *arthritique*. It is accompanied by the usual manifestations of alteration of the liver: hypertrophy of the organ, subicteric complexion, and the presence in the urine of excess of biliary pigments, of brownish-red pigment, of urobilin, ammonia, and the amino-acids. The nitrogen index is low. Again, the patients may sometimes have hæmorrhages and disturbances due to blood coagulation.

The cause of this hepatic diabetes may be a general infection that attacks the liver, an intoxication such as by alcohol, which has an affinity for the liver cells. More often, according to our observations, it is due to overfeeding, especially on meat.

The glyco-regulator disturbance, as a rule benign, may be cured if the anatomical and functional integrity of the liver can be restored. This will show how important is the treatment of hepatic diabetes.

The treatment is chiefly directed to the liver, the basis being mineral water cure such as by the waters of Vichy, Brides, Carlsbad; hepatic opotherapy; lacto-vegetarian *régime*. While avoiding excess of carbohydrates, it is important to reduce the quantity of meat ingested, the chief cause of the trouble.

MAJOR R. J. BLACKHAM, R.A.M.C., honorary surgeon to the Viceroy of India, who is the Assistant Commissioner of the St. John Ambulance Brigade in India, was the recipient recently of an address of congratulation from the Bombay Corps of the brigade on his being created C.I.E. by the King. The address was enclosed in a beautiful and valuable silver casket.

were considerably diseased I excised it, after satisfying myself that the common duct was free. An enlarged gland which lay immediately below the neck of the gall-bladder was also removed. Neither in this nor in the gall-bladder was there any sign of growth. Some caseous nodules were found in the gland, but no giant cells. I put a ligature around the cystic duct, which was quite small, and closed the wound with a drain in the space formerly occupied by the gall-bladder.

On Oct. 31st it was noticed that there was a little bile escaping from the drainage-tube and that the patient was jaundiced; her stools were clay-coloured and the urine contained bile. The discharge of bile from the wound became very free, and the jaundice which was complete continued. I was at a loss to explain this unusual combination of symptoms and to connect it with my operation, unless I had left behind a stone in one of the hepatic ducts. So on Nov. 18th I reopened the wound and found the cut end of the cystic duct patent, and bile flowing freely from it. A probe passed easily into each hepatic duct, but I failed to detect a stone in either of them. I could not pass a probe along the common duct, but I could not detect any thickening or block in the duct in any part of its course.

Amid much that was uncertain there was one undoubted fact—that the bile was flowing freely from the end of the cystic duct—so I determined to deal with this by uniting the end of the duct to the duodenum. There was less than half an inch of the cystic duct left, I therefore did not enlarge its orifice by slitting up the duct, but making a tiny incision through the coats of the duodenum I united the cut end of the duct to it by a double row of sutures. The wound in the abdominal wall was then closed above and below a drain. For a few days there was a slight escape of bile; this soon stopped, and the wound healed soundly. On Nov. 20th the jaundice was noticed to be distinctly less, and a motion passed on Nov. 21st was dark brown in colour. From this time the jaundice rapidly lessened, the motions continued of a normal colour, and the patient left the hospital quite convalescent on Dec. 12th.

The interest of this case lies in the fact that a patient who for years had had gall-stones, but without jaundice, developed jaundice immediately after the removal of the gall-stones and of the gall-bladder, and that the jaundice was unrelieved by the free escape of bile from the divided cystic duct. It is clear that something occurred at the operation which produced an obstruction or obliteration of the common duct. This was not the displacement of a stone from the cystic duct into the common duct, for not only was no stone found at the second operation, but the cystic duct was of its normal size—just admitting a probe—and had evidently never been distended by the passage of a stone large enough to block the common duct. In this respect the case reminds me of a patient upon whom I operated three years ago. She had a cholecystotomy done by another surgeon some years previously. I was called to see her for recurring attacks of jaundice with fever and acute epigastric pain. Expecting to find a stone in the common duct, I operated and found dense adhesions in the midst of which I opened a dilated common duct; this was stenosed lower down, but I was able to trace the duct through the adhesions and restore the continuity of its two portions.

But far more interesting than the blocking of the common duct as a sequel to cholecystectomy is the association of deep jaundice and dark bile-loaded urine with free escape of bile from an external fistula. I can offer no satisfactory explanation of this, nor can I explain how turning the bile again into the duodenum sufficed to remove a jaundice which was not benefited by its external escape. I was greatly relieved to find that my second operation was successful in spite of any adequate explanation.

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TUBERCULOUS RHEUMATISM.[1]

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TUBERCULOUS rheumatism was first described by Poncet, of Lyons, and other French physicians, such as Bérard, Maillant, Bezançon, and Griffon, have reported cases from their own researches, but so far British physicians have not described the condition in detail. The articular lesions in infective diseases, such as gonorrhœa, dysentery, syphilis, pneumonia, &c., are quite different from the pseudo-rheumatic arthritic lesions observed in some forms of tuberculosis.

From an observation of over 6000 cases of pulmonary tuberculosis under my care in hospital and elsewhere, I have not met with a single case of tuberculous rheumatism—at least, it was not recognised as such; and although it is very common to see cases of tuberculous arthritis attacking one or perhaps more joints, it is most rare to meet with a multiple arthritis of the smaller joints in the hands, fingers, wrists, and ankles in the course of tuberculosis.

The subject of this paper is a young lady, aged 19, of healthy parents. She has several sisters, all of whom are healthy. I am told that she was always, as a child, very fond of milk, and drank large quantities. At the age of 13 she first developed tuberculous glands in the left side of the neck. These gradually spread down to the clavicle, into the submaxillary regions, and to the right side. The infection was slowly progressive, until both sides of the neck were much swollen and very painful. Her general health became seriously affected and she lost weight rapidly. Every remedy was adopted, but nothing seemed to check the infection. At last, five years after the first onset, the glands in the original focus showed signs of breaking down, and it was decided to open and remove the contents of all the suppurating glands. This was done by Mr. W. Thelwall Thomas, but it was impossible to remove any glands, so firmly were they fixed to everything in the neck. A month after the operation the patient developed a painless, rapid effusion into the right wrist-joint, followed in a week by a similar condition in the left wrist, and followed again by swelling of all the metacarpo-phalangeal joints of both hands. There was very little pain, but the temperature was high, 102° F. at night and 99° in the morning for 10 days. Salicylate of soda had no effect whatever either on the temperature or joints. The right wrist was aspirated and half an ounce of fluid removed. Very careful cytological examinations were made in order to detect tubercle bacilli, but none could be demonstrated.

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[1] A paper read before the Medical Section of the Royal Society of Medicine on Dec. 16th, 1913.

I injected the fluid into a guinea-pig, and also into a rabbit. The guinea-pig developed tuberculosis in four weeks, and showed a progressive tuberculosis extending to all the organs. Cultures were made from the spleen of the guinea-pig on Dorset's egg medium, and a growth corresponding to bovine tuberculosis obtained. The rabbit also developed a tuberculosis, although of not so progressive and severe type as the guinea-pig, and similar cultures were made from the spleen and liver of the rabbit. These cultures also showed the bovine characteristics.

An emulsion was made from the contents of one of the tuberculous neck glands and injected into a guinea-pig and also into a rabbit. Both animals developed in seven weeks a generalised tuberculosis, and cultures made from their organs were typically bovine in appearance. The stained tubercle bacilli showed nothing of a distinctive character.

It was clear that we were dealing with a primary infection of the neck glands with the bovine bacillus, probably conveyed through milk and absorbed from the tonsils and pharynx. The secondary arthritic infection was evidently through the blood stream. The von Pirquet reaction was most violent. There was no affection of the lungs or pleuræ.

Six weeks after the onset of joint symptoms the skin of the legs and feet became red, swollen, and brawny, and numerous bullæ appeared which soon ruptured, discharging greenish pus. Some of these appeared on the arms; after healing a dark brown stain was left on the skin, which still remains.

On the subsidence of the acute symptoms I commenced a course of tuberculin T.R. (human) in very small doses, to commence with 0·0001 mgm. The injections were given weekly in increasing strengths to a maximum dose of 0·01 mgm., and I am glad to say with most welcome result. The glands have subsided to half their previous size, whilst the joints have become smaller and more movable, although they are still stiff, but painless. The local reaction of the tuberculin at the site of injection is very marked and persists up to the present time. We can only hope that further progress will be made, as she is not yet by any means out of danger.

Examination of the fluid from the joints revealed an excess of lymphocytes, which is, of course, in favour of tuberculosis as opposed to polymorphonuclear leucocytosis, which occurs in true rheumatism.

I have only seen three cases of this rare condition. The first was in Washington, America, in 1908, and occurred in a boy, aged 14, who was suffering from tuberculous neck glands with secondary pseudo-rheumatism in both hands and wrists. His joint symptoms entirely passed off after the glands were removed and a course of tuberculin administered. The second case I saw in Berlin this year at the Rudolph Virchow Hospital, and occurred in a girl, aged 17, suffering from tuberculosis of neck glands and lupus. The third case I have just described.

It is of interest to note that these three cases were all secondary to a primary tuberculous focus in the neck glands, which is, in my opinion, almost always caused by the bovine bacillus, and I can find no record of tuberculous rheumatism occurring in the course of pulmonary tuberculosis which is most frequently the result of infection by the human bacillus. It would seem, therefore, that the bovine bacillus is much more likely to find its way into joints, and also into the blood stream, than the human bacillus, which is generally limited in its action to the lungs, larynx, and intestines.

Professor Dieulafoy divides tuberculous rheumatism into two divisions: (1) primary, and (2) secondary. He mentions a case of recovery from a primary infection, but does not record any case occurring in the course of, or preceding, pulmonary disease. Bentz, however, records two cases in which the initial lesions, Pott's disease and osteitis of the tibia, remained active, while the joint troubles disappeared without ending in definite articular tuberculosis.

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Liverpool.

BULLET WOUND OF THE SPINE:

A CASE OF MEDICO-LEGAL INTEREST.

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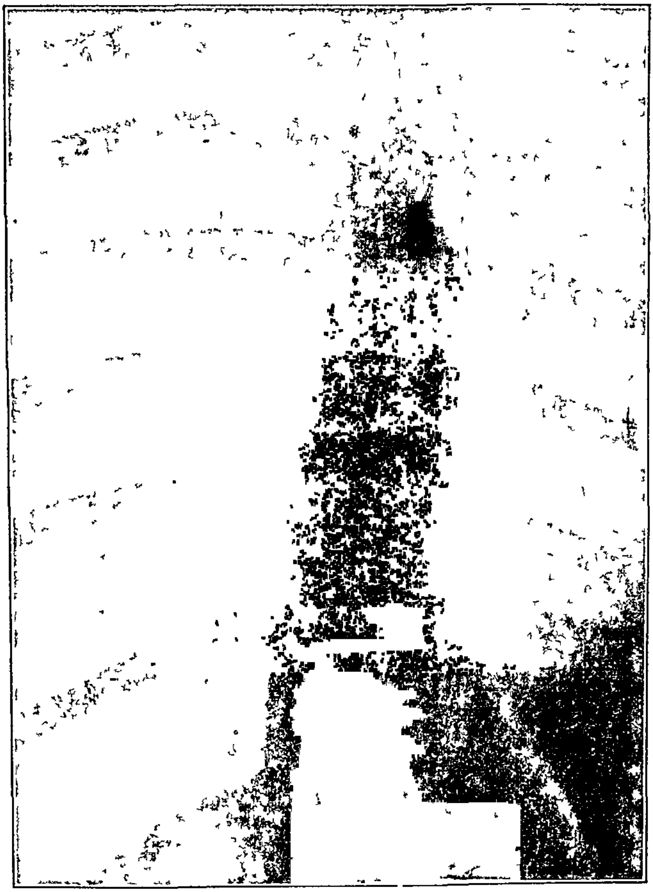
ON Saturday, the 18th of October, 1913, two people, a man and a woman, were found shot in a London hotel, and Dr. J. R. Ryan and Dr. T. M. Ness were summoned to see them. They telephoned me, and I saw the patients not long afterwards in consultation with them. When the patients were first seen, after the door had been opened with a pass key, they were lying in parallel beds, placed closely together, and the man occupied the one to the left of the woman. The beds had to be separated to permit the wounds to be examined. The man was the more seriously injured of the two, and when I saw him he was lying on his back, and showed symptoms of severe shock. By his side, parallel with his right hip, outside the bed, at about the length of the arm, was a small revolver, the butt end of which was turned towards him, whilst the muzzle pointed downwards. It was placed in such a position that if he had put it there himself he must have placed it with care, and with the hand supine. Dr. Ness assured me that this weapon had not been moved since he had entered the room. Alarm was first excited in the hotel by the sound of two shots in quick succession.

Examination of the male patient showed a round bullet wound, the edges of which were burnt by the close discharge of the weapon. There was no wound of exit. The wound, which had not bled very much, was situated on the left side of the middle line, about an inch and a half below the nipple and about an inch to the inner side, and had penetrated the chest through the intercostal space. There were loss of respiratory sounds and hyper-resonance on this side. His pulse was small and very rapid, but he had no dyspnœa. There had been no hæmoptysis. The wound was cleansed with an antiseptic and dressed. A hypodermic injection of morphine was given, and later in the day, when his shock had passed off to some extent, he was transferred to St. Thomas's Hospital.

The woman, who was very excitable, was not much injured; the bullet had entered over the left lower rib about the anterior axillary line, and came out again about an inch and a half posteriorly in the same plane. The wound of entrance was marked with the powder and was exactly like that in the man. She was also transferred to St.



From a skiagraph showing position and size of bullet in the spinal canal (Dr. A. D. Reid).

Thomas's Hospital, where she rapidly recovered. Nothing abnormal was detected on examination with the X rays. The weapon was a small Browning repeating pistol, firing a bullet the size of the one shown in the skiagram.

The man continued in a very low state after admission, and it was found that he was unable to move his lower limbs. He had retention of urine. There was complete anæsthesia below the waist and entire loss of reflexes. The bullet was seen with the X rays, but this examination was unsatisfactory. As the condition of the man prevented full exposure it could not be definitely localised. It was, however, lying to the right of the middle line in the spinal region. As there was still a very rapid pulse with some hæmorrhage from the wound, he was placed under an anæsthetic in the evening. The wound was opened up and the lung examined. There had been very little hæmorrhage into the pleura; the wound of the lung could be easily seen, but the lung was collapsed and the pleura full of air. The pericardium which was immediately to the right of the wound was uninjured. The edges of the wound in the intercostal space were pared and the opening closed with sutures. There was a gradual improvement in the condition of the chest and the general state of the patient, but none in that of the paraplegia. Dr. A. D. Reid then carefully examined the patient with the X rays, and gave it as his opinion that the bullet was lying in the spinal canal at the level of the seventh dorsal vertebra (see illustration). On the chance that its removal might be of benefit in the relief of pressure, laminectomy was performed on Nov. 2nd and the bullet was removed. It was lying between the dura mater and the vertebra to the right of the middle line. No irregularity of the bone could be felt or seen. The bullet was not in any way fixed, and was easily lifted out when the cord had been retracted to the left. It had not lost much metal, being but slightly flattened at the tip as if it had been deflected by bone or something of a hard nature. The cord was evidently much bruised. Pulsation was visible to the level at which the bullet was lying, but not below that. The patient stood the operation very well and the wound healed satisfactorily. He thought that sensation improved in both legs, but the paralysis did not get any better. Retention with overflow was only prevented by catheterism, and cystitis developed, from the effects of which he died on Nov. 21st at 9 P.M.

No post-mortem examination was permitted and a verdict of suicide was returned by the coroner. The radiograph, which is an excellent one, enabled Dr. Reid to say that the bullet was lying in the spinal canal, at the level of the seventh dorsal vertebra, and it was exactly as he stated. As there was no trace of bone injury or splashes of lead on the bones, did the bullet enter the spinal canal by the intervertebral foramen and turn up? To gain this point did it travel along the inner aspect of the ribs, or pass direct to the foramen which was penetrated?

Questions which present themselves for solution are, Did the man shoot the woman and himself, as he stated? If the man shot himself, how was it the bullet was lying so much to the right of the wound of entrance that it was removed from the right side of the spinal canal? Would any healthy man lying in bed naturally place a revolver in such a position as that in which this one was found? Could a man who had received such a severe mental and physical shock place the weapon so? Is it probable? The shortness of the interval between the two reports makes it unlikely that the weapon changed hands.

These are the questions which would naturally present themselves in any medico-legal examination of the facts, but such examination was considered unnecessary in view of accompanying circumstances and the man's confession.

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NASOPHARYNGEAL AND CERVICAL GLANDULAR TUBERCULOSIS IN CHILDREN.

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Physicians and surgeons, more particularly those connected with a hospital for children, are confronted daily with cases of this nature. Our views on the subject are based on the experience gained by the treatment and observation of a large number of hospital cases, and a not inconsiderable number of private patients. We consider the subject from the following points of view: (1) Etiology and pathology; (2) clinical course; (3) prophylaxis; and (4) treatment.

Etiology.

In children under 1 year. During the early months of the first year of life tuberculosis is a comparatively rare disease, but in cases in which it occurs it is often in relation to the structures of the middle ear. In children under 6 months of age middle ear and mastoid tuberculosis is relatively common. It may be suspected from three clinical signs and symptoms: (1) a watery discharge from the middle ear; (2) a soft, boggy, painless swelling over the mastoid process; and (3) facial paralysis. Facial paralysis coming on in a child under 6 months of age, unaccompanied often by discharge from the external auditory meatus, or by perforation of the tympanic membrane, or by external evidence of mastoid disease, is almost a pathognomonic sign of extensive tuberculous disease of the Eustachian tube, middle ear, and mastoid process. This fact is very important. A soft swelling, usually painless, which is somewhat diffuse over the mastoid process and causes the pinna to bulge forward, is equally suggestive of tuberculosis. In such a case there is often no discharge from the external auditory meatus. We have never seen such signs present in a child of this age who was *solely* fed at the breast. We are bound therefore to correlate the occurrence of such early tuberculous infection with the practice of artificial feeding, and, more particularly, with feeding with cow's milk. There is a marked predilection for the infection to affect the middle ear and the temporal bone, and it seems to us that this is explained by aspiration up the Eustachian tubes during the act of sucking. It is certain that as the child gets past the age of sucking, mastoid and middle-ear infection become less common, and the disease attacks other regions of the nasopharynx. In these cases the tuberculous infection is often very acute and virulent. If, however, the disease remains limited to the mastoid process and does not spread either to the cervical glands or cranial cavity, the prognosis is a good one. We would therefore draw attention to the facts that tuberculosis affecting the nasopharynx in children under 1 year of age, and especially those under 6 months, has a strong predilection to spread up the Eustachian tube, and that it invariably occurs in children fed with cow's milk.

Large hospital experience of glandular tuberculosis in children over 1 year has proved to us that one gland or set of glands in the neck is more liable than any other to be the site of infection. This gland is situated in a definite anatomical triangle in the upper part of the neck. It lies immediately below the posterior belly of the digastric, and between the internal jugular and common facial veins. It is the central point of conveyance of a large number of lymphatics. These are, indirectly, the auricular, the facial, and the submaxillary, but above all it is the gland which receives directly the lymphatics from that part of the nasopharynx which includes the tonsil. It has also intimate connexions with two other sets of glands: (1) half a dozen round the spinal accessory nerve as it enters the sterno-mastoid muscle; and (2) the carotid set, passing down in relation to the carotid sheath. It is important to understand these anatomical facts in order to realise the course of tuberculous infection in this region of the body. Why should this gland (jugulo-digastric) be more liable to infection by the tubercle bacillus than any other in the body? We must realise that it is almost invariably a secondary infection. Where, then, is the primary focus? Some years ago one of us (E. W. S. C.) examined the pharyngeal tonsils in a series of cases of glandular tuberculosis. Casual sections were made of the tonsil on the side on which the glands were proved to be tuberculous after operation. In nearly 20 per cent. of cases the tonsil was found to be the site of tuberculous infection. It was only natural to suppose that a more careful examination by means of serial sections of such tonsils would show a still greater percentage of tonsillar infection, and such has proved to be the case from the recent work of Stiles and Mitchell. Tuberculous infection of the tonsil, therefore, is now known to be extremely common, and we must refer to its pathology in order to understand the course of events in the common form of the disease.

Pathology.

Primary infection: tonsillar tuberculosis.—Tuberculous infection of the tonsil does not cause ulceration of its surface: we have never seen a case of tuberculous ulceration even in tonsils which were the seat of advanced tuberculosis. In our experience tonsils which are the seat of extensive tuberculous infection are not hypertrophied tonsils, but are, on the contrary, often small, ragged, and atrophic. Tonsillar tuberculosis is chronic in type and leads to fibrosis and shrinkage of the tonsil. It rarely causes caseation to such a degree as to lead to breaking down of the tonsil. In the early stages it begins in the form of one or two giant cell systems round the bottom of the tonsillar crypts. These gradually extend into the substance of the tonsil until the whole or part of the gland has become invaded by the disease. It is probable that the tonsil is often tuberculous months or even years before the disease spreads beyond its substance. When the disease reaches the outer boundary of the tonsil it sets up a peritonsillitis, which is often somewhat acute in character. It is not perhaps going too far to say that many of the cases of acute tonsillitis so-called, which are ultimately found to be associated with tuberculosis of the corresponding glands, are really peritonsillar infections, and due to the spread of the disease beyond the tonsil. We have seen numerous instances where an attack of acute tonsillitis has led to the discovery of an advanced glandular tuberculosis.

Secondary infection: glandular tuberculosis.—Tuberculous infection in a gland begins as isolated foci which are often of different ages and stages of development. On examining such a gland removed at operation these multiple foci are seen distinctly, and consist of a caseating or calcareous centre with a surrounding capsule of fibrous stroma. When the tuberculous condition is progressive these foci continue to grow, and sooner or later one reaches the surface of the gland, involves its capsule, and sets up an inflammatory condition around the gland (periadenitis). This may follow one of two courses: (1) The periglandular tissue becomes congested and œdematous. This leads to extensive swelling which persists for some weeks and finally subsides. (2) This process does not resolve but passes on to the formation of an abscess outside the gland, which ultimately makes its way to the skin surface. In a large number of cases the periadenitis subsides, but another similar attack is liable to occur, and frequently recurring attacks end sooner or later in abscess formation. It is interesting to note that these recurrent attacks of periadenitis are not due to mixed or septic infection, and we would emphasise the resemblance in this respect between periadenitis and peritonsillitis already referred to. One of us (E. W. S. C.) has examined the pus and tissues from these cases of periadenitis on several occasions, and has failed to demonstrate the presence of any pyogenic organisms.

Clinical Course.

The following are examples of cases.

CASE 1.—A female aged 6 years. She was a healthy baby of healthy parents, and was brought up on the bottle and given large quantities of milk and cereals early. Purely pap feeding was continued through the second year, and no animal food was given other than milk or an occasional egg. Digestion and health were generally fairly good. When 2½ years old she suffered from acute tonsillitis. A throat-swab showed streptococci. The cervical glands on one side of the neck rapidly enlarged and became matted by periadenitis. In the course of about 10 days the throat condition had largely subsided, but in the neck a lump of the size of a small orange remained. In spite of general treatment glandular enlargement persisted. The tonsils were not markedly enlarged, but were ragged and unhealthy-looking. Operation on the tonsils or on the glands was refused. The child continued in fairly good though uncertain general health. An excessive carbohydrate diet was persisted in and the mass of glands gradually softened. When aged 6 years, along with pharyngeal catarrh, the enlargement rapidly increased and a large abscess was developed which threatened to rupture externally. On operation being performed extensive tonsillar tuberculosis, with a large abscess and numerous broken-down tuberculous glands in the neck, was found.

CASE 2.—A female aged 4 years. She was taken ill suddenly with influenza. She had a high, swinging temperature, sore throat, and greatly enlarged tonsils, with numerous white patches on the surface. A throat swab showed streptococci. On recovery from the acute attack the tonsils and adenoids were removed and found to be tuberculous. Six months later as a mass of glands remained on one side of the neck it was removed and found to be tuberculous, CASE 3.—A male aged 18 months. He was a healthy baby at birth. He was brought up on the bottle and fed largely on patent foods and medicated milk. He had constant digestive difficulties, and developed slight rickets, with distinct symptoms of the presence of adenoids and unhealthy-looking ragged tonsils. At the age of 14 months he developed acute tonsillitis with great enlargement and matting of glands on one side of the neck. Two months later excision of adenoids and tonsils showed tuberculous infection throughout.

Such are common and typical cases of apparent acute outset. But the occurrence of sore-throat and acute and marked glandular enlargement is no evidence of the period of onset of the tuberculous infection, and in most cases the tonsil has probably been the seat of a latent tuberculous infection for some considerable time previously. Generally speaking, the younger the child affected the more acute is the course of the disease. When the disease runs throughout a chronic course we take it that the course is nevertheless similar to that in an acute case. The difference here is that the conditions of peritonsillitis and periadenitis are slighter and may not be recognised clinically. The first evidence of the presence of disease is then the appearance of a single mobile gland in the side of the neck. This gland may lie latent for years, and, beyond a slight variation in size from time to time and an occasional slight attack of periadenitis, it does not attract much attention. A focus in its substance, however, may at any time become active and lead to the formation of an abscess.

Prophylaxis.

Tuberculous infection of the tonsils and cervical glands occurs in cases in which, apparently, every rational method of procedure has been adopted. Often, however, it is far otherwise. It is not our object at present to direct attention to the infecting agent—the tubercle bacillus. Suffice it to say that, however large or however small a proportion of cases it may be which are infected by the bacillus of bovine origin, it is always wise to give only *scalded milk* to a baby during the first two years of life. Prevention otherwise naturally consists in the maintenance of good general nutrition and of a healthy condition of oral and nasopharyngeal tissues. For the attainment of these ends two factors are of great importance—diet and oral hygiene.

The foundation of tuberculous disease of the cervical glands is over and over again laid in the manner of infant feeding. Unsatisfactory digestion, imperfect nutrition, eructation, vomiting, and consequent nasopharyngeal catarrh ensure a suitable nidus for infection. The advantage to a baby of receiving his mother's milk is too obvious to need more than remark. If he is not suckled he should receive during the first two years of life no cow's milk which has not been scalded. He should be fed on fixed quantities at definite intervals. This is the most important rule in infant feeding, and the one which is generally most necessary to emphasise. Within reason the actual composition of the food for a healthy baby is much less important. Cow's milk, condensed milk, patent foods—babies thrive well on all or any of these. Some are better than others, but most healthy babies would thrive on any if judiciously handled. But irregularity and uncertainty in time and amount of feeding are always dangerous, and usually have disastrous results. Irregularity of feeding times nearly always means feeding at too short intervals, and uncertainty of the requisite amount at each feed usually ends in overfeeding. In both cases regurgitation and often vomiting tend to occur. Catarrh of the pharynx is set up, and in association with disordered digestion and its effects on nutrition, a favourable locus is provided for infection. For the same reason cereals or patent foods containing unaltered starch should be avoided as a rule during the first six months of life.

The commencement of primary dentition—the latter half of the first year—is a period of great importance from the dietetic point of view. Starch now is a valuable element in the diet, the chewing and gnawing of hard food has to be encouraged, and simple animal food, such as gravy, clear soup, and lightly boiled egg, has to be gradually included in the diet sheet.

We would emphasise the importance of accustoming the baby to gnaw a tough crust or a thick, strong bone. Oral hygiene largely consists in facilitating the cleansing of the mouth by saliva, and by no means can this be better attained than by such gnawing and chewing. During the second year considerable variety of food is good, hard food is useful, and meat becomes an important element of the diet.

Here we would lay stress on a prevalent misconception regarding the value of meat in the diet of young children. Constantly we see otherwise healthy children suffering from indigestion due to overfeeding with bread, porridge, potatoes, biscuits, cakes, sweets. Comparatively rarely do we see indigestion due to excessive meat-eating. Most certainly a large amount of meat in the diet of a healthy young child is likely to cause digestive trouble. But the point is that an adequate supply of flesh meat and fish in the daily diet is not only beneficial, but is, as a rule, necessary for the maintenance of health. During the first half of the second year the child should get this animal food in the form of egg, bacon, or fish. Thereafter he should be given daily at dinner a little chicken, rabbit, or butcher's meat. We consider that deficiency of animal food—in the shape of meat, fish, and eggs—in the diet, along with the common coexistent carbohydrate dyspepsia, is a widespread and important underlying factor in the development of various infections, and is more particularly one of the primary causes of the vast amount of cervical glandular tuberculosis.

Treatment.

As has been indicated, the onset of obvious enlargement of the glands is often sudden. The child is seized with a general illness of the nature of a "cold" or influenza, there is acute pharyngeal catarrh and often marked tonsillitis, and coincidently there is glandular swelling in the neck. With ordinary mild antiseptic local treatment the acute condition in the throat subsides in the course of a few days, but the glandular enlargement remains. Von Pirquet's reaction is strongly positive. There is a mass on one side of the neck of the size of a small orange and adherent to the surrounding tissues. The mass is firm and at first tender on manipulation. On the other side of the neck there are usually one or two small firm discrete glands to be made out on careful palpation. Under no circumstances should operative interference be carried out when peritonsillitis or periadenitis is present. Surgical interference is only indicated after or between such attacks.

The first and obvious procedure is to seek to remove the acute periadenitis by means of boric poultices or ichthyol (20 per cent.) applications locally, and to paint the throat with a mild antiseptic (boroglyceride). As the condition improves the tenderness disappears, the glands appear firmer and more readily movable, and the mass shrinks to some extent. During this period no other routine medical treatment should be employed and tuberculin should certainly be avoided. The general health of the child, however, requires careful attention. Often it is quite good, but sometimes there are want of appetite, lassitude, and various signs of disturbed metabolism. Usually, however, there is no swinging temperature. Four to six weeks after the onset of the condition the tonsils and adenoid tissue should be removed. This should be done in every case, whether there is apparent enlargement or not.

Following on this operation the child should be ordered a change of air for about two months. If it is summer-time and the weather warm the sea coast is suitable, but as a rule an inland part of the country at some height is better. During this time the child is in the open air as much as possible, is given plenty of simple food at regular intervals, and in particular receives a sufficiency of animal food. As a matter of routine the administration of tuberculin is inadvisable. If the child can be given all the stimulating and invigorating advantages which accrue from a suitable change of air and scene and a well-regulated diet, tuberculin gives nothing more. If, on the other hand, the best environment in all respects cannot be obtained, tuberculin is of value. Tuberculin T.R. is given in small doses every tenth day. For a child of 2 years one begins with a dose of 1/8000th of a milligramme and increases to 1/6000th; for a child of more than 5 years one begins with a dose of 1/6000th and increases to 1/4000th. The attempt is to avoid any general reaction. At the end of two months—i.e., between three or four months after the onset of the acute condition—the question whether or no operation is advisable should be decided. In all cases, however, where before this time there has been evidence of active disease as shown by recurring attacks of periadenitis, operation should be advised. This is particularly the case when the tonsils have been found to be extensively diseased.

The younger the patient the more active the disease as a rule, and the greater the need for surgical interference. If there is a definite history of family predisposition to tubercle infection, and, more particularly, if a member of the household suffers from tuberculosis, and if the glands have not distinctly shrunk, they should be removed at once, irrespective of the general condition of the child. The probability in such cases is that sooner or later they will break down. If there is no such history, however, if the general condition of the patient is not quite satisfactory, and if the glands show no distinct signs of shrinking, or if the disease is spreading to the spinal accessory or carotid set of glands, or if there are signs of abscess formation—again operation should be advised at once. If the general condition is good and the glands are distinctly smaller, operation is not advisable, and there is good ground for the hope that, under a careful regimen, the condition will undergo a natural cure. If the general condition is not quite satisfactory, but the glands are rather smaller and firmer, or, again, if the general condition is good but the glands are not distinctly smaller, a course of tuberculin should be employed for a further period of at least two months. If at the end of six months from the acute onset, in the one case the general condition is still unsatisfactory, or in the other the glands are still markedly enlarged, they should be removed. In cases, chronic from the commencement, where a gland persists for more than a year and tends to get larger, its removal is desirable.

MODERN TREATMENT OF LACRYMAL OBSTRUCTION.

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THE recent discussion at the annual meeting of the British Medical Association on the treatment of lacrymal stricture appears to have been of little practical value, for it has left us in much the same state as we were in before. My object in writing this paper is to appeal to ophthalmic surgeons for a wider trial of rational lines of treatment in cases of lacrymal duct obstruction.

For many years ophthalmic surgeons have been satisfied with the old-established method of probing; but of late years there has been a growing tendency to resort to other methods. The large number of lacrymal sacs that are now excised annually bears eloquent testimony to the unsatisfactory results from probing. Undoubtedly probing does at times meet with brilliant success, but such cases cannot be frequent, else why this wholesale excision of sacs? The reasons for the failure of the various probing methods are numerous. Amongst them is the tendency for the stricture to close, necessitating repassing of probes at intervals for years, or at any rate until the patient gets tired of the treatment. Let us think for a moment what is likely to happen in the passage of a full-sized probe. A certain amount of force, more or less, is used, and this must in all probability actually denude the lacrymal canal of its mucous membrane at the point of greatest pressure. We cannot even be certain that the probe does not pass through a tear in the mucous membrane and for the rest of its course pass down between the mucous membrane and the bony wall of the canal.

Compare the conditions to be found in a case of urethral stricture. There we know that fibrous tissue replaces the ordinary mucous membrane, and after the relief of a tight stricture by the passage of bougies it is recognised by surgeons that the cure is not permanent, but the patients are usually instructed to present themselves at regular intervals for the passage of bougies. Neglect of this advice sooner or later results in a recontraction of the stricture. How can we expect the lacrymal canal to differ in its course and progress when treated on the same lines?

The use of styles following probing has had a good many advocates. They do not always relieve, in many cases they are a source of discomfort, and in not a few cases have patients presented themselves at the hospital with marked cellulitis of the tissues round the orbit due to a forgotten style, which in some cases had been there for years and was extracted with difficulty.

I now pass on to the question of the extirpation of the sac, the various methods for which are numerous and need not be discussed. In favour of this method, which, indeed, is a great advance on probing, is the fact that it shortens treatment; it is an effectual preventive of those suppurative affections of the sac which frequently follows stricture. It is, however, a mutilation, and from that point of view an unsurgical procedure in the highest sense of the term. But in saying this I do not deny that many cases are best treated by extirpation of the sac; among such one would mention tuberculous disease of the sac or those in which a bad fistula was present in patients advancing in age. Against it also has been urged the statement that infectious conditions of the conjunctiva are more frequent, more difficult to cure, and more liable to relapses after removal of the sac. I do not know on what evidence this statement has been made, but certainly in my own comparatively small number of cases in which I have removed the sac I have never had to treat infectious diseases of the conjunctiva of the corresponding eye. And here it will be appropriate to allude to a case of congenital bilateral absence of the puncta in a youth under my care. So far as can be ascertained he has never suffered from any inflammatory affections of his conjunctiva. Undoubtedly, therefore, there are many cases in which extirpation of the sac is the wisest and best course to pursue, though I believe that it is a procedure which should be only undertaken after a very careful and comprehensive survey of each individual case, and I believe that as our experience ripens we shall find that fewer and fewer sacs will be excised and that more rational and surgical lines of procedure will be followed.

The ideal treatment is, of course, to restore as far as possible the natural drainage of the sac. The best means by which this can be done at the present time appears to be the method elaborated by Toti, or, to give it its rather cumbrous name, dacryocystorhinostomy. This is a genuine attempt to meet the surgical requirements, though probably the future will see further improvements on these lines. There is no need that I should here go into a minute description of the operation. It will suffice to say that it consists of two steps: (1) exposure of the lacrymal sac in its fossa and removal of its inner wall; and (2) the removal of the inner wall (in part) of the lacrymal fossa and the mucous membrane of the nose lying against it. By this means the tears drain directly from the sac into the anterior part of the middle meatus of the nose or the vestibule.

Whilst most ophthalmic surgeons seem to know of the operation, yet so far as I am aware Mr. Charles Higgens is the only one in this country who has reported on this particular operation, and he recorded three cases before the Ophthalmological Section of the British Medical Association at the annual meeting this year.

For the past two and a half years I have been doing Toti's operation on selected cases, and have now actually done 10. Of these 10 cases, 7 have been and are, so far as I can trace them, completely cured of their epiphora. Two patients were only partially relieved—that is to say, they still complained of watering of the eye when I last saw them; though it was possible, but with difficulty, to syringe fluid through into the nose. However, the purulent discharge which they had had previous to the operation has not returned. One case was a failure owing, I think, to faulty technique on my part. The lacrymal fossa was deep and not easy to get at, and I believe the opening into the nose was insufficient. This, of course, is not a large series of cases, and one is not justified in claiming too much for the operation, though the results are sufficiently encouraging to induce me to give the method a much more extended trial.

Let us now consider what the critics of this operation urge against it.

1. Its difficulty. Most of the surgeons who have mentioned this operation, but who, I believe, have not done it, urge against it its great and inherent difficulty. For example, in opening the discussion on the subject of treatment of chronic dacryocystitis at the British Medical Association meeting already referred to, Mr. Harrison Butler made this remark: "I think that Toti's method would be always exceedingly difficult and tedious, and in most cases quite impossible," &c. Others have spoken in still stronger terms about it. Without doubt the operation requires that the surgeon should have an intimate knowledge of the anatomy of the lacrymal sac, together with its fossa and its relation to surrounding parts, and surely every ophthalmic surgeon should be expected to know the anatomy of the orbit, its surroundings, and contents to the minutest details, seeing that he is dealing with so restricted an area. Excision of the lacrymal sac itself needs a clear knowledge of the parts involved and is not a simple operation. Toti's operation is in reality very little more difficult. As my experience has increased so the time for completing the operation has lessened, and I find that half an hour amply suffices in uncomplicated cases.

2. A second objection urged against the operation is the danger of infection of the conjunctiva from the nose. My own series of cases does not bear this objection out, for not a single case has ever had the slightest trouble from that cause. Why should it be more likely to occur after this operation than in a stricture which has been dilated? In the latter case the mucous membrane has probably shed most of its epithelium and is itself in a more or less septic state; an easy channel whereby organisms may travel up from the nose to the conjunctival surfaces. It seems to me, therefore, that this objection would apply with greater force to methods in which probing is the main procedure.

3. Again, it has been urged that there would probably be a good deal of discomfort during the process of blowing the nose from the fact that there is such a free communication between the lacrymal sac and nasal cavity. This is an objection which I fully expected to find, but though I have questioned patients about it they have none of them experienced the slightest inconvenience. In connexion with this I might mention the following case in my series.

A patient, a woman aged 40, had had lacrymal obstruction on both sides for over a year. She had been treated on one side by another surgeon by probing with so little success that after many weeks of discomfort she ceased the treatment. Becoming neglectful, she developed an abscess of that sac, which burst and left a fistula on the face. She then came under my care. I excised the sac on the side where the fistula was situated, and later did a Toti's operation on the other side. To-day, some two years after the operation, the side on which the anastomosis was done is the more comfortable of the two. This, I think, will speak for itself.

These, then, are the answers I would make to the various objections to Toti's operation. Hitherto the subject of the treatment of lacrymal stricture has not received as careful a consideration as it demands. Often the subject is almost neglected. Lately, indeed, some awakening of interest has shown itself since the introduction of the operation of extirpation of the sac. But this is not to be the end of all progress, and I would appeal to those ophthalmic surgeons in this country who are interested in the subject of lacrymal stricture to give Toti's operation or its congeners a trial with the hope of elaborating still better methods. Let us face the facts. Why should ophthalmic surgeons hesitate to perform an operation which involves the nasal passages? The regions in contiguity to the orbit belong as much to the ophthalmic surgeon as does the cranial cavity to the aural surgeon and, as I have already said, every ophthalmic surgeon should be thoroughly *au fait* with the anatomy of the whole of the orbital and peri-orbital areas and be prepared to deal with the various conditions, orbital or lacrymal, which involve these. I am sure, and in this most surgeons will agree with me, too many sacs are excised. And yet, apart from treatment by probes, a method which is slowly but surely coming into disrepute as a routine measure, and justly so I think, there is no other line of treatment to adopt. It is for this reason I have ventured to place on record the few cases of Toti's operation I have done, with the hope that others will be encouraged to adopt similar methods, and so assist in bringing about a line of treatment more calculated permanently to benefit our patients.

Cardiff.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF DERMATOLOGY.

Exhibition of Cases.

A MEETING of this section was held on Dec. 18th, 1913, Dr. J. J. PRINGLE, the President, being in the chair.

The PRESIDENT exhibited a man, aged 30, with typical Fordyce's Disease of the Lips of about 15 years' duration. The subjective symptoms were greatly disproportionate to the visible changes as is frequently observed. The case was brought forward chiefly to obtain the opinion and experience of members as to treatment. His personal results from the use of X rays had been disappointing. He had heard of the successful use of radium in one such case, probably employed "naked" in small and frequently repeated doses, and he proposed to apply this method of treatment in the case shown.—Dr. W. K. SIBLEY recommended salicylate of soda cataphoresis; Dr. G. PERNET, electrolysis; Mr. T. P. BEDDOES, arsenical paste; and Dr. A. WHITFIELD advocated the surgical removal of skin and subsequent grafting if no good results were obtained from full pastille doses of X rays.

Dr. DUDLEY CORBETT brought forward a man who had contracted syphilis and who now presented marked Macrocheilia; the Wassermann reaction was positive; the patient was a heavy smoker and had a very septic mouth.—Dr. J. H. SEQUEIRA had seen a similar case greatly improved by salvarsan.—Dr. E. G. GRAHAM LITTLE suggested extracting the teeth.—Dr. WHITFIELD recommended the use of salvarsan combined with mercury and the removal of the teeth.—Dr. A. M. H. GRAY and the PRESIDENT added their testimony to the efficacy of salvarsan in such cases.

Mr. BEDDOES exhibited a recent malignant growth on the finger of a medical man who had suffered from X ray dermatitis for at least nine years.—Dr. SEQUEIRA recalled a similar case observed by Darier which developed eleven years and seven months after exposures to X rays.—Dr. WHITFIELD had observed the appearance of an X ray ulcer 12 years after X rays were employed to locate a needle in the foot.—Dr. H. G. ADAMSON pointed out that this case illustrated the fact that epithelioma might be consecutive to large as well as to repeated small doses of X rays. The three previous speakers all strongly advised free excision of the growth.—Dr. GRAHAM LITTLE referred to a case observed by Darier, arising in circumstances identical with that reported by Dr. Whitfield, and Dr. G. N. MEACHEN mentioned two cases of severe dermatitis occurring five and seven years respectively after the X raying of scrofulous glands and ringworm.—Dr. W. KENNETH WILLS (Bristol) said that he had found carbon-dioxide snow useful in the removal of warty growths resulting from X rays.

Dr. S. E. DORE showed a severe Frambœsioid Syphilide of the hairy parts of the face in a man. The Wassermann reaction was negative but the patient had been taking Donovan's solution.—The PRESIDENT suggested that the appearance might in part be due to the iodine which he had taken, and agreed with the exhibitor as to the marked benefit afforded by salvarsan in such cases.

Dr. DORE also showed a boy, aged 4½ years, with Congenital Hyperkeratosis of the Palms and Soles which was noticed at birth. Similar keratoses were present over the elbows and knuckles and dorsal aspects of the ankles. He discussed the relationship to ichthyosis, and thought that in view of the difficulty of classifying these cases it was better to retain the name of congenital hyperkeratosis.—Dr. J. M. H. MACLEOD thought the condition had best be classified as a form of nævus, and said that in true ichthyosis the palms and soles were rarely affected.—Dr. F. PARKES WEBER considered that keratoses of the extremities constituted a class by themselves.—Dr. WHITFIELD and the PRESIDENT, while agreeing that such cases as that exhibited were not examples of true ichthyosis, differed from Dr. MacLeod, and were of opinion that in true ichthyosis the palms and soles were almost invariably involved to some extent, although not in the manner exhibited in the patient.

Dr. DORE also showed a case of Congenital Alopecia in a boy, aged 2, which had been complete at birth, but tufts of hair had since grown on the vertex and in the occipital region and elsewhere. The Wassermann reaction was negative.—Dr. SEQUEIRA'S experience was that the Wassermann reaction was negative in all such cases.

Dr. DORE also showed a well-marked example of Bromide Eruption of Granulomatous Type in an infant of 8 months, the origin of which could not be determined, although a teething-powder administered was open to suspicion.

Dr. W. T. FREEMAN exhibited a typical Dermatitis Artefacta, confined to the left arm, in a girl aged 22, which had been provoked since a burn three years ago; many of the resulting scars had recently become cheloidal.

Dr. PERNET also brought forward a case of Dermatitis Artefacta of about six months' duration on the right arm of a woman. The lesions were obviously produced by a powerful escharotic the nature of which he had been unable to determine.—Dr. SIBLEY, Dr. SEQUEIRA, and Dr. J. H. STOWERS discussed the cases.

Dr. MACLEOD exhibited a boy who presented the lesions of Lichen Spinulosus as well as those of Lichen Planus. The lichen spinulosus had been present for about four years, but the lichen planus had developed on the flexor aspects of the arms and legs only within the last few weeks. He considered that two different conditions were present in the same patient, and that the case was not an example of the lichen planopilaris which had been described by the President.—The PRESIDENT concurred in Dr. MacLeod's view, and added that the disease with which his name had been associated occurred in adults, and that the spiny and plane lesions which developed successively were probably clinical expressions of one pathological condition.—Dr. ADAMSON said that lichen spinulosus in the adult was in his experience always the precursor of lichen planus.—Dr. WHITFIELD was of opinion that spinulosus papules might occur any time before the onset of a lichen planus, and did not follow the same course.

Dr. SIBLEY showed a case of Extensive Erythematous Lupus of the Scalp and Face treated with carbon dioxide snow dissolved in acetone.—The treatment was discussed and criticised by the PRESIDENT, Dr. SEQUEIRA, Dr. ADAMSON, Dr. DORE, Dr. A. DOUGLAS HEATH, Dr.

MACLEOD, and Dr. GRAY, all of whom agreed that the essential condition for success was the production of a superficial atrophy after an appropriate amount of cutaneous reaction.—In reply, Dr. SIBLEY stated that the pain produced was not unduly severe, and that the method was applicable both to the "fixed" and more diffuse vascular types of the disease.

Dr. SIBLEY also showed a case of Stomatitis Neurotica Chronica of 10 months' duration in a nervous woman, aged 38; the lesions were situated on the buccal mucosa and on the dorsum of the tongue, and were always aggravated by worry. The condition had been differentiated by several continental observers, and he had published three cases in 1899, one of them being of 25 years' duration.—Dr. ADAMSON regarded the case as annular lichen planus.—Dr. PARKES WEBER had seen one similar case successfully treated with a weak solution of chromic acid.—Dr. J. GALLOWAY had observed several identical cases which he regarded as the result of oral sepsis.—The PRESIDENT was quite familiar with the condition, which he had long considered to be one of recurrent herpes. They were certainly frequently associated with neurotic dyspepsia.—In reply, Dr. SIBLEY said that none of his cases had ever developed lichen planus, and in one patient all the teeth had been removed without improvement.

Dr. GRAY exhibited an example of Parapsoriasis-en-plaques, of three years' duration, in a middle-aged man, the patches being situated on the thighs, legs, arms, and back. Great improvement, especially as regards diminution of the itching, had resulted from the use of the Kromayer lamp.

Dr. SEQUEIRA exhibited a case of extremely severe Lichen Scrofulosus in a boy, the whole surface of whose trunk was covered with a papular eruption closely resembling lichen planus, for which the disease was at first mistaken. Microscopical examination, however, revealed distinct tubercular architecture.—Dr. R. A. BOLAM had seen an identical eruption, but localised on the face.—Dr. ADAMSON and Dr. MACLEOD concurred in the diagnosis of a tuberculide, but Dr. WHITFIELD regarded it as a lichen planus.—The PRESIDENT would have diagnosed the case as lichen planus, but was bound to accept the microscopical findings as conclusive.

Dr. SEQUEIRA also showed a case of Multiple Neuromata in a woman, aged 56, the whole of whose body presented innumerable pigmentary patches and small tumours, which had been present since childhood. The diagnosis was in doubt until microscopical examination revealed the true neuromatous nature of these growths which brought the case into very close affinity with Recklinghausen's disease.

Dr. GRAHAM LITTLE showed a lad with a tumour of recent growth, about the size of a tangerine orange, on one knee, which he thought was probably a fibro-sarcoma, but some of the members present regarded it as a lymphatic nævus.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Discussion on the Sale of Milk.

A MEETING of this society was held on Dec. 12th, 1913, Dr. A. K. CHALMERS, the President, being in the chair.

A discussion on the Sale of Milk was opened by Dr. H. JOSEPH CATES, medical officer of health of St. Helens. He referred to the unsatisfactory state of the law with respect to the sale of milk and to the difficulties connected with the prosecution of those who supplied milk which was of an unsatisfactory character. The Sale of Milk Regulations issued by the Board of Agriculture in 1901 provided that a sample of milk which contained less than 3 per cent. of fat should be presumed until the contrary was proved not to be genuine. Where the contents of a sample were found to be below this percentage, and where proceedings were taken against the vendor, various defences were set up. In a case at Lancaster where a milk-seller was prosecuted for selling milk which was admittedly 23 per cent. deficient in fat according to the Board's standard, a successful defence was raised by the cowkeeper from whom the milk was purchased testifying that the milk when sold was in the same condition as when it came from the cows, and witnesses were called to show that normal healthy cows could give milk containing as little as 1·7 per cent. of fat. Factors which were said to cause a variation in the amount of fat in milk included seasonal variation, the period of lactation, the interval between the times of milking, the method of milking, the quality and amount of food, and the particular breed of cattle. The effect of establishing a sort of minimum standard had been to bring about what was known as the "toning" of milk, which consisted of the addition to a naturally rich milk of water or more commonly of skimmed milk in sufficient quantities to bring the resultant mixture into line with that standard. With almost mathematical exactness samples of milk would show on analysis 3 per cent. of fat, almost proving that careful manipulation was taking place. In a certain town when it was decided to take proceedings only when the percentage of fat fell to below 2·7 a progressive deterioration immediately followed in the quality of the samples taken. Although he admitted that there was much to be said against the fixing of a minimum standard as regarded milk, Dr. Cates was of opinion that it would be of some value, and he considered that cows that habitually gave milk of a quality considerably below the limit which was fixed should not be used as milkers.

Mr. WILFRED BUCKLEY, who had established a dairy farm in Surrey on lines similar to those which supplied certified milk in America, insisted that milk should only be sold as "certified" if its production had been approved by a body that had no direct interest in the milk trade and he urged that this could only be done by the establishment of a Government certification.

Sir SHIRLEY F. MURPHY spoke of the extreme difficulty of determining what was good milk and thought that it might be better not to fix any standard. He agreed that the milk of a cow producing poor milk should not be sold.

Dr. B. BURNETT HAM said that in Australia there was a Departmental Committee representing various interests capable of dealing with all aspects of the milk trade. In Victoria there was a standard of 3·5 per cent. of milk fat, probably the highest in the world. After some years' experience it had been found to inflict no hardship on producers, and it had been found possible to maintain the standard.

Dr. A. W. J. MCFADDEN was afraid that with the high standard in Australia there must be a great deal of toning down of milk. He referred to the provisions in the latest Milk Bill dealing with the purity of milk, and especially as regards the addition of colouring matter and of skimmed milk and of water.

Dr. A. B. MACMASTER advocated the grading of milk as practised in America.

Mr. HERBERT JONES hoped that grading would not be introduced into this country as it would put a premium upon the production of milk under most unsatisfactory conditions, for farmers would continue to supply dirty milk on the plea that it could be sterilised and thus rendered harmless.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Specimens.—Relation of Blackwater Fever to Malaria.

A MEETING of this society was held on Dec. 11th, 1913, Dr. J. LLOYD ROBERTS being in the chair.

The following specimens were shown and described:—

Dr. H. LEITH MURRAY: Three cases (two of which were under the care of the late Dr. A. Wallace) of Adenomyoma of the Posterior Vaginal Wall immediately below, but distinct from, the cervix. In two of these the growth, histologically simple and identical with a uterine adenomyoma, burrowed through the recto-vaginal septum and infiltrated the wall of the rectum. Dr. Murray discussed the etiology.

Dr. N. RAW: Carcinoma of Stomach involving Œsophagus.

Mr. T. O. LITLER JONE[illegible] with Papilloma of the Ureter; [illegible] Jaw.

Mr. LITLER JONES and [illegible] uman Hairball.

Mr. G. P. NEWBOLT and Dr. W. MURRAY CAIRNS: Human Hairball weighing 4½ lb., which had been successfully removed by Mr. Newbolt from the stomach of a girl aged 16.

Mr. NEWBOLT: 1. Human Hairball weighing 9 oz., which he had successfully removed in the year 1908. In this case a bismuth X ray photograph clearly showed the outline of the hairball. 2. Round-celled Sarcoma of the Bladder Wall. 3. Carcinoma of the Kidney.

Mr. R. C. DUN: (1) Lymphadenoma; and (2) Vermiform Appendix containing Threadworms.

Professor E. E. GLYNN: (1) Two Human Hairballs; and (2) Hairballs from Animals.

Dr. W. B. WARRINGTON: Tumour in the Right Posterior Fossa of the Cerebellum. It was the size of a small walnut, growing between the fifth and seventh nerves. During life the only focal symptom was right corneal areflexia. The posterior fossa was explored on the right side, but owing to the interior and anterior site of the tumour its presence was not detected at the operation. Histologically the tumour was composed of innocent fibrous tissue.

Professor J. W. W. STEPHENS and Mr. F. A. G. JEANS: Chinese Lady's Foot. Surgically it was in a condition of pes cavus, whilst pathologically the deformity was mainly produced by a change in the os calcis, which was L shaped, the patient walking on the insertion of the tendo Achillis.

Professor STEPHENS: (1) Bilharzia of Bladder and Intestine; (2) Guinea-worm; (3) colour photographs from Lip of Tsetse Fly; (4) Redshank trapped by Cockle; (5) Fossil Tsetse Fly; and (6) Bot Parasite on Tapeworm.

Dr. W. BLAIR BELL: Sarcoma of the Ovary.

The specimens were discussed by Mr. F. T. PAUL, Mr. C. THURSTAN HOLLAND, Mr. NEWBOLT, and Mr. LITLER JONES.

Professor STEPHENS read a paper on the Relation of Blackwater Fever to Malaria.—Dr. W. T. PROUT discussed the paper, and said that he supported Professor Stephens in his view as to the relationship between malaria and blackwater fever. The more he had seen of this disease in the tropics, and his experience was very considerable, the more he was impressed from a clinical point of view with its relationship to malaria. He thought some of the figures cited by Professor Stephens very convincing, and he considered that additional confirmatory evidence might be cited in the results of the prophylactic use of quinine. Where this had been systematically done it had been found that blackwater fever had diminished as well as malaria.—Dr. LLOYD ROBERTS, Mr J. BRADLEY HUGHES, Dr. C. O. STALLYBRASS, and Dr. R. E. HARCOURT also spoke, and Professor STEPHENS replied.

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Extra-uterine Gestation occurring Twice in the Same Patient.—Tubal Mole.—Suppurating Hydropyonephrosis complicating Pregnancy.

A MEETING of this society was held at the Royal Infirmary, Derby, on Dec 2nd, 1913, Professor WALTER C. SWAYNE, the President, being in the chair.

Mr. H. T. HICKS showed two specimens of Chorion-epithelioma occurring after Pregnancy at Full Term. The first specimen was obtained at the necropsy on a patient who had given birth to a full-term living child about three months before death. A small nodular growth was present in the uterine muscle close to the left cornu, and metastases were found in the lungs, kidneys, liver, and other viscera. An important point in connexion with the case was the absence of uterine hæmorrhage. Apart from a slight loss of blood about 16 days after delivery, uterine symptoms were absent. The patient was admitted as an acute liver condition. The hepatic area was explored and small secondary growths in the liver were found at the time of operation. Microscopical sections revealed the nature of the neoplasm. The second specimen consisted of a uterus enlarged to about the size of a two months' gestation and containing a diffuse dark-coloured necrotic growth, which had the typical characteristics of chorion-epithelioma. The organ was removed from a patient who had suffered from attacks of bleeding for a month after delivery at full term. A small embolic growth was present in the anterior wall of the vagina; this was also removed. The patient was operated upon six weeks after delivery, and nine months later was apparently in good health.—Mr. H. BECKWITH WHITEHOUSE described a case of Chorion-epithelioma which he had seen under the care of Dr. Thomas Wilson, and which only revealed its true nature when operation was required owing to severe intraperitoneal hæmorrhage. At the laparotomy the bleeding point was found in the left mesosalpinx, and was due to erosion of one of the veins in a pampiniform plexus by an embolic deposit. He was interested in Mr. Hicks's first case, particularly since he also had met with one example of chorion-epithelioma which had caused no uterine hæmorrhage and which was only discovered at the necropsy.—Mr. CHRISTOPHER MARTIN asked if any hydatidiform degeneration of the placenta was present in either of Mr. Hicks's cases. He would like to know in what proportion of cases hydatidiform mole preceded chorion-epithelioma.—The PRESIDENT thanked Mr. Hicks for bringing these two interesting cases forward. He was particularly interested in the same because he had had two very similar cases. In one, before operation, definite hæmoptysis was present which had been attributed to pulmonary metastasis. After operation the symptom disappeared, and the patient made a good recovery and remained well after several years. Leith Murray had shown that in some cases there is a definite tendency to retrogression of these growths.—Mr. HICKS, in reply, thought that Mr. Martin had raised a most important point as regarded the incidence of chorion-epithelioma to vesicular mole. The views of Teacher and Marchand were that the malignant growth as a rule follows the latter. In his own experience this had not been the case, since in a series of four examples three had succeeded full-term gestation.

Mr. HICKS next exhibited a specimen of a Complete Cast of the Female Bladder which had been passed per urethram. The patient had suffered from retention of urine, the result of pressure from a retroverted and incarcerated gravid uterus. The latter had to be emptied, and about a week later a small portion of the cast appeared at the urethral orifice. The whole cast was delivered by traction from below. The patient ultimately made a complete recovery.—Dr. C. E. PURSLOW related the details of a case where a complete cast of the bladder was passed by a woman who had had for a fortnight retention with incontinence due to a retroverted gravid uterus. The patient died from ascending infection of the kidneys.—The PRESIDENT also recorded details of a fatal case of exfoliation of the vesical mucosa secondary to retroversion of the gravid uterus.

Mr. HICKS also showed (1) a specimen of a large Tubo-ovarian Cyst of the left uterine appendage, a similar and smaller cyst being present in the opposite adnexa, and (2) a small Dermoid of the Left Ovary containing three teeth. The interest in the latter specimen lay in the fact that the patient was X rayed for diagnostic purposes, and the photograph showed three distinct shadows lying near the left sacro-iliac synchondrosis. The abdomen was explored for supposed ureteric calculi, when the small tumour containing the teeth was discovered, the latter accounting for the shadows.

Mr. MARTIN showed a Uterus and Both Appendages removed on account of Bilateral Tubal Gestation and small Multiple Uterine Fibroids.

Dr. PURSLOW exhibited a specimen of Unruptured Interstitial Ectopic Gestation removed from a patient aged 32, who had been married five years and had not previously been pregnant. Menstruation had been regular up to 10 weeks before operation. She then had amenorrhœa for six weeks, and subsequently on three occasions noticed a brown discharge. It was thought that there had been an abortion, and she was sent by her medical attendant to Dr. Purslow with a view to having curetting performed. On examination, the uterus was found to be slightly enlarged and a small swelling was noted attached to its right cornu. Tubal gestation was diagnosed. On opening the abdomen the swelling was found to occupy the right uterine cornu, the corresponding round ligament being attached rather to the inner side of the centre of the swelling. The tube was perfectly normal. The tumour was removed by excising a wedge-shaped portion from the wall of the uterus, the patient making a good recovery. No blood was present in the peritoneal cavity.

Mr. WHITEHOUSE read a short communication upon a case of Extra-uterine Gestation occurring Twice in the Same Patient, together with a Note on the Treatment of Tubal Mole. The author observed that the case raised an important point as to whether an operator is justified in removing the uterine appendage in cases of tubal mole or incomplete tubal abortion. Personally, he did not believe that it was good surgery to sacrifice the ovary and tube in these instances, since dissection of a number of specimens under normal saline had shown that the mole is only attached by a narrow base, and that no great difficulty need be anticipated in controlling the bleeding point. He suggested that access to the mole be attained by a longitudinal incision through the wall of the tube. After enucleation and control of the bleeding point the wall might be closed by a continuous suture of fine silk. With regard to the objection of total or partial occlusion of the tube, he did not think that the risk of such occlusion was as great in cases of tubal mole as in inflammatory conditions which are from time to time subjected to operation by salpingostomy and partial salpingectomy.—The PRESIDENT observed that with regard to Mr. Whitehouse's suggestion of conservative surgery for tubal mole the same idea had occurred to him, but he had deferred the experiment because he did [illegible] the tubal lumen.—Mr. MARTIN [illegible] number of cases of tubal mole [illegible] it could safely be delayed. As to operative treatment, he preferred the more radical method of salpingo-oöphorectomy, since he thought it was difficult to know what was the cause of ectopic pregnancy. Personally, he considered that the fault lay in the muscle rather than the mucosa of the tube. This being so, salpingotomy would favour the recurrence of the condition.—Mr. WHITEHOUSE in reply stated that he did not consider the risk of obliterating the lumen of the tube a very real one. The operation was certainly easier in the case of tubal pregnancy than in the presence of inflammatory disease; furthermore, as regarded the repetition of ectopic pregnancy, time alone could answer this question. A study of the anatomy of tubal mole had convinced him of the possibility of conservative measures, and he intended to bring the same into practice when the next opportunity offered.

Mr. HICKS read a short communication upon a case of Suppurating Hydropyonephrosis complicating Pregnancy, with remarks upon the symptoms and treatment of pyelitis of pregnancy.—Mr. WHITEHOUSE, in thanking Mr. Hicks for his paper, said that he was glad to note that the author's views regarding the influence of vaccines in this condition coincided with his own. Personally, he had never seen a case which, in his opinion, would not have recovered just as well without vaccines as with them. The majority of patients got well on the usual *régime* of absolute rest, light diet, and urinary antiseptics. Mr. Whitehouse did not agree with Mr. Hicks's suggestion that pressure of the pregnant uterus upon the ureter was the predisposing cause of right side pyelitis, and asked why the right kidney was the organ usually attacked in children? also, why did dilatation of the ureter occur in children and apart from any pressure?—Mr. MARTIN referred to the rapidity with which symptoms of pyelitis were relieved by evacuation of the uterus. If the symptoms did not disappear under ordinary medicinal measures, he always advised evacuation of the uterus in preference to surgical procedures upon the kidney. —The PRESIDENT was also of opinion that evacuation of the uterus was a therapeutical measure of considerable value in some of these cases, although at times it was difficult to come to a conclusion, especially if the fœtus had reached a viable age. In such a case he had sometimes been tempted to advise nephrotomy rather than emptying the uterus.—Dr. PURSLOW thought that many cases of pyelitis were due to ascending infection from the vulva and were to be attributed to lack of cleanliness on the part of the patient.

EDINBURGH OBSTETRICAL SOCIETY.

The Place of Gynæcology in the Medical Curriculum and in General Practice.

A MEETING of this society was held on Dec. 10th, 1913, Sir J. HALLIDAY CROOM, the President, being in the chair.

Dr. A. H. FREELAND BARBOUR read a paper on the Place of Gynæcology in the Medical Curriculum and in General Practice. The Edinburgh Royal Infirmary had, he said, made a noteworthy change i [illegible] the clinical teaching in recognisi [illegible] s a department by itself. Th [illegible] arch, 1906, appointed a lecturer on systematic and clinical gynæcology, distinct from the lectures on midwifery. In May, 1907, an examination on clinical gynæcology was introduced in the final examination, thus coming to stand alongside of clinical medicine and clinical surgery. This did not imply that it was of the same importance as these other two subjects, but it emphasised the fact that no graduate of the University should be allowed to enter the practice of medicine without some evidence of possessing at least an elementary knowledge of this subject. The last [illegible] of 2000 cases in the University gynæcological ward and found that 50 per cent. were referred directly or indirectly to conception or childbirth; 9 per cent. to the want of the menstrual function at puberty; 7 per cent. to the patients entering married life; while 20 per cent. began to suffer late in life towards the menopause. Experience showed that patients of the working and middle classes, who formed the larger proportion of the *clientèle* of the general practitioner, expected to be treated in the first instance by the physician who attended them at their confinements. The examination and diagnosis depended on him, and the routine treatment of chronic cases, what was called minor gynæcology, should be relegated to him. It rested with him to say when the case should pass out of his hands into those of the specialist In the Infirmary, every sixth lecture in the course of clinical lectures was devoted to gynæcology. It might be said that the affections of the reproductive system furnished about that proportion of the work of the general practitioner as far as his female patients were concerned. The intimate relationship of gynæcology with medicine must not be lost sight of. In former days the specialist did not at once enter on his specialty, but took up general medicine as well, and gradually separated himself from that. A wide knowledge of the relation of their own specialty to other departments of medicine and of the features of the individual case for a time under their care gave them a sound judgment which made their opinion weighty. The difficulties which beset the clinical investigation of gynæcological cases had in the past sent the graduate into practice inadequately prepared to deal as efficiently with diseases of the reproductive system as with those of other systems in the female. Unless a graduate had learned as a student in the hospital or dispensary under skilled guidance how to make a bimanual examination, and also what might be learned from it, the little gynæcology he had picked up as a student became less, and finally became a skill or knowledge not possessed. Gynæcology should not be relegated to a post-graduate course; hence there had been given to every student during recent years in Edinburgh an opportunity of learning the elements of gynæcological investigation, and the clinical examination had been introduced into the final examination to ensure that he had availed himself of this advantage. While minor gynæcology would continue to belong to the general practitioner, operative gynæcology had become more and more the work of a specialist. It was on its surgical side that gynæcology had of recent years been specialised. The operating gynæcologist must be prepared to deal with any abdominal condition that might crop up unexpectedly in, or form a necessary part of, an operation on the female pelvic organs. In other aspects of gynæcology there had been a tendency in the opposite direction. In its pathology the idea was current at one time that there was a special pathology of the female pelvic organs which found expression in gynæcological literature such as Bennet's "inflammation of the uterus," and Graily Hewitt's "mechanical, system of uterine pathology." Now the general principles of pathology were applied to pelvic disease. It was recognised that, apart from the peculiarities of the anatomical structures involved and the physiological changes implied in menstruation, there was no difference between salpingitis and appendicitis, and that epithelioma of the cervix did not differ from epithelioma of the lip. The same idea had crept into clinical work and came out in the term "diseases peculiar to women." While the gynæcologist retained his position as a consulting specialist, yet a considerable part of gynæcological practice was being relegated to the general practitioner. It was significant that Kelly, of Baltimore, some years after writing his great work on operative gynæcology, brought out one on what he called medical gynæcology, and in his preface he stated that "this period of surgical evolution is now at last clearly at an end." We seem to be at the beginning of a period of medical evolution. The discovery of the internal secretion of the ovary was making the operator hold his hand in the removal of that organ; the value of organic extracts, thyroid, suprarenal, and pituitary, was becoming recognised, and they were influencing gynæcological treatment; and radium was taking its place in the treatment of cancer.

Dr. D. **Berry Hart** considered gynæcology evolved from obstetrics, as the obstetrician was consulted first. As to whether the gynæcologist should be a surgeon or a physician, the matter had been stated very judiciously. No doubt for a long time gynæcology became a surgical specialty; now they had methods which to a certain extent might supplant that; but he thought that a great proportion of the treatment in gynæcological cases would be of a surgical nature. The general practitioner knew he must be as well trained as possible, and, if so, a greater proportion of cases would come under his care.

Professor H. **Harvey Littlejohn**, Dean of the Medical Faculty, remarked there was no question that gynæcology was a very important branch of medicine for the general practitioner, and that, if possible, every graduate from Edinburgh should have a good working knowledge of it. He gathered that Dr. Barbour considered the teaching at present was insufficient. His feeling with regard to all specialties was that they should get as much time as could possibly be given. They could not turn out men too well trained; unfortunately, there were only five years, and they had to cut the coat according to the cloth. The question was whether more time could be given to specialties, and whether the attendance of students could be systematised at these classes so that they got the maximum of knowledge in the minimum of time. The faculty was considering whether they could not economise in certain directions and give more time to others, so as to improve the training of the student at the end of five years. The students got three weeks' systematic training and 12 hours of clinical work; it was proposed to extend that to 18 hours, and to make it compulsory.

Dr. F. W. N. **Haultain** felt that there had been far too much tendency to separate gynæcology from obstetrics. He thought to separate the theoretical teaching of these two subjects, given by different men, was undesirable. The continuity of the teaching of obstetrics into that of gynæcology was, to his mind, perhaps best. The obstetric physician teaches obstetrics, but he must be a gynæcologist in order to live. If he had enough obstetric cases to keep him he would not have a life worth living. Gynæcology was a specialty as much as that of the eye or ear, and not only so, it was a specialty that was much more difficult to teach, because of want of sufficient material; and if one could not give the students sufficient material to make them thoroughly expert in gynæcology, he thought they had no right to turn them on to the public hall-marked as gynæcologists. Under present conditions the student was either getting too much or too little; that is to say, he was being hall-marked when he passed at the university final because he had passed an examination in gynæcology.

Dr. J. **Haig Ferguson** thought gynæcology might be looked upon from three points of view: the abdominal aspect on surgical gynæcology which was entirely in the hands of the specialist; vaginal gynæcology, which was partly in the hands of the specialist and of the general practitioner; and medical gynæcology which was in the hands of the specialist and general practitioner. The present position of abdominal surgery was mostly due to the operating gynæcologist. The gynæcologist had come in contact and collision with the general surgeon. There was a tendency to encroachment not only in this country but all over the world, except perhaps in Germany. In America it was said that the general surgeon did everything and the gynæcologist risked losing his title and proposed to deal with the abdomen irrespective of sex. He considered the separation of obstetrics and gynæcology as inevitable. In some ways it was to be very much regretted. There was no doubt that a knowledge of obstetrics had been a great help to the gynæcological surgeon especially in regard to diagnosis, and ignorance of obstetrics was certainly a handicap to the general surgeon from a diagnostic point of view. It would be exceedingly unfortunate for obstetrics if obstetricians did not receive training in surgical gynæcology.

Dr. W. **Fordyce** said he had been struck as a teacher and examiner with the difference in the knowledge of the man who had done even a very little gynæcology in the wards and that of the man who had got his learning merely from books. In teaching gynæcology even in the short time available one could do much in the way of helping a man as a general practitioner. A man could learn a great deal in a short course of five or six weeks if it were made compulsory; up to the present time it had been voluntary, and therefore they did not take advantage of their opportunities.

Dr. G. **Keppie Paterson** considered Dr. Barbour's estimate of the proportion of purely gynæcological cases in general practice as too high. With regard to the preparation of a student for general practice, it should be the aim of the curriculum to give the student a primer knowledge of each special subject and how to recognise especially urgent conditions requiring immediate treatment. In gynæcology he should have a course of systematic lectures, and every student should be trained to examine a patient properly.

Dr. G. F. **Barbour Simpson** considered the advances made in recent years had no doubt been due to more careful study by the students and their teachers. Large abdominal tumours no longer came under observation. He could not agree with the opinion that the separation of obstetrics and gynæcology had become inevitable; they could never be divorced.

Dr. **James Young** said it seemed strange that the large amount of out-patient material in the hospital in Edinburgh was not utilised for teaching purposes. In London even the meagre out-patient material which they had in the various hospitals was made use of in the most practical manner.

Dr. H. **Oliphant Nicholson** believed that a man who had followed general practice for many years did very much better work as a specialist than a man who had had no such previous training.

The **President** did not think that gynæcology would ever be absorbed into general surgery. He should be very sorry to see the day when obstetrics and gynæcology were separated. They were two absolutely consolidated subjects. It was, he thought, impossible for any man to discharge the duties properly and take the responsibility of teaching both obstetrics and gynæcology; it was only possible to teach these two subjects by two men who were united in the matter and who taught in relation to one another. He was told it was quite possible for one man to teach both subjects. Well, what did it come to? It came to giving one's work over to assistants, which was nothing like so satisfactory as having it done by senior men.

Dr. **Barbour** replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

Exhibition of Cases.—Endocarditis Lenta.

A meeting of this section was held on Dec. 5th, 1913, Dr. J. F. **O'Carroll**, the President, being in the chair.

Dr. H. C. **Drury** showed a man, aged 32, who had Raynaud's Disease. The patient had been in India. Two years ago he was engaged as a night porter. At the beginning of the present winter the disease began in his hands. When first seen four weeks ago his right hand was in a condition of local asphyxia, and the other hand showed commencing gangrene, the whole hand being blue and intensely cold. He never permitted the patient to wash his hands, fearing sepsis. There was no albumin or sugar in the urine, and the Wassermann test had a negative result. The condition came on quite quickly, and its very acute condition was of interest. No pulse could be felt in the left wrist, and in the right it was scarcely perceptible. The patient was treated with alcohol and chloride of calcium, at first with 5-grain doses, and then with 10-grain doses, per diem. There was much pain at the beginning, and opium had to be administered at night. The patient was at work up to six weeks ago. No signs of cardiac disease could be discovered.

Dr. A. R. **Parsons** showed a patient with enormous Dilatation of the Veins on the Abdominal Wall. The man had had typhoid fever in 1893. The onset of very acute pain in the right iliac fossa had caused so much suspicion of perforation that laparotomy was performed. No perforation was found, and the patient made a comparatively uneventful recovery. Two years later he showed signs of obstruction in the two iliac veins, or perhaps in the inferior vena cava. No inconvenience was experienced.

Dr R ATKINSON STONEY showed a patient, aged 41, in a very similar condition to the patient exhibited by Dr Parsons When in South Africa in 1901 he had enteric fever and was in hospital for three months, in bed the whole time, two relapses occurring There was no bleeding from the bowels at any time He was in a convalescent camp for one month During the voyage home he noticed swelling of both legs for the first time most marked in the right leg, which was said to have been 5½ inches larger than normal No enlargement of the veins of the legs was noticed at this time, but the veins on the front of the abdomen were noticed to be enlarging He was in a convalescent home in England for two months, and was then discharged from the army He had since been in the Canadian police force The veins in the legs became enlarged while in that force in 1904 , the enlarged veins in the thigh gave trouble when riding Varicose ulcers first formed on the legs in 1910 , they had healed and broken down twice since then At present there was a very large tortuous vein forming upon each side of the abdomen from below the middle of Poupart s ligaments to the corresponding axilla , the bloodflow was free in both directions , one valve not completely competent was situated just below the level of the nipple There was another large tortuous vein forming upon either side of the middle line from the same origin to the front of the sternum The femoral vein could be felt as a hard cord in each leg up to Poupart's ligament , the abdominal veins had become larger during the last nine months The condition was probably due to occlusion of the iliac veins and the inferior vena cava —Sir JOHN MOORE related a case of his which resembled the two preceding cases, but the dilatation of the superficial abdominal veins was unilateral —The PRESIDENT and Dr T GILLMAN MOORHEAD and Dr W F LAW discussed the condition There was a general feeling that thrombosis of the femoral veins is a commoner sequel of typhoid fever than statistics appear to show

Dr MOORHEAD read a paper on Endocarditis Lenta and showed the organs from a patient who had succumbed to the disease The condition had supervened on a chronic endocarditis The aortic valves became infected after the mitral valves The spleen was enlarged and there was moderate nephritis Streptococcus viridans had been cultivated during life from the blood and recovered also post mortem from the valves —The PRESIDENT thanked Dr Moorhead for his contribution as he considered it a distinct acquisition to know that this definite type of endocarditis had a definite coccus as its recognised cause A point which came into his mind was that when a case came into hospital with an old cardiac lesion there was a proneness to assume that the patient was tired from the effects of his old disease, whereas he might have a new endocarditis —Sir JOHN W MOORE Dr G E NESBITT Dr W M CROFTON, and Dr W D O KELLY discussed the condition

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SECTION OF OBSTETRICS

Exhibition of Specimens —Eclampsia

A MEETING of this section was held on Dec 12th, 1913, Dr M J GIBSON, the President, being in the chair

Dr GIBBON FITZGIBBON showed a specimen which consisted of the left tube the right ovary, and the uterus The patient was a married woman aged 40 para 2 , five years had elapsed since the last confinement In November, 1912, she was first seen, complaining of profuse metrorrhagia which had been *occurring every fortnight or three weeks* for about three months and lasting 10 to 12 days She was admitted to hospital and curetted for the purpose of diagnosis as possible carcinoma of the uterus At this time the uterus was very little enlarged , the cavity was 3¾ inches with nothing abnormal to be felt in its shape The appendages were apparently normal The patient left hospital in 12 days and when seen two months later the menses had occurred normally twice since the curettage She remained quite well till July, 1913 when she commenced to have pains in the pelvis and abdomen She was not seen again until October, 1913, when she was looking very ill had evidently lost a lot of flesh, and was very anæmic. On examination a tumour was found in the middle line reaching to within one inch of the umbilicus The uterus could not be definitely separated from this tumour, and there was a large mass behind the uterus filling Douglas's pouch and rather fixed, but separate from the tumour in front The condition suggested multiple fibroids except that the front tumour was distinctly cystic At the operation the right ovary was found cystic about the size of a fœtal head and adherent to the fundus of the uterus and intestines This was first removed and then the left tube, which was enlarged to about the size of an elongated cricket ball, was found adherent to Douglas's pouch , when this was removed a hard nodule was found in the bottom of the pouch and connected with the cervix, and as it seemed rather suspicious it was decided to do a hysterectomy This was done as low down as necessary on the vagina to get below the nodule and when the posterior wall of the vagina was divided it was found that the nodule was adherent to the rectum, requiring the removal of a piece of bowel about the size of a shilling The nodule was growing from the cervix extraperitoneally The ovary showed pathologically a carcinoma of a squamous type and rather suggestive of sarcoma The tube was solid and proved to be a columnar carcinoma quite unlike the ovary The nodule on the uterus rather resembled the ovarian cancer The combination of two distinct types of cancer in the tube and ovary at the same time is curious, and the third centre of disease in the uterus resembling the ovarian cancer which was completely removed from the region of the uterine disease, raises the question of the origin—whether the uterine or ovarian condition was primary to the other or were they two independent growths The whole case is of interest from the rapidity of the growth for there was no suggestion of any growth 12 months previously the only suggestion being an early carcinoma of the body of the uterus The patient left hospital in five weeks in better health, but her convalescence was greatly delayed by severe bronchopneumonia and pleurisy, but there is very little hope that the whole disease could have been eradicated —Dr E HASTINGS TWEEDY expressed the opinion that the patient would not have a recurrence for a long period —Sir WILLIAM SMYLY agreed with Dr Tweedy s opinion but suggested that the patient should look out for recurrence in the rectum

The PRESIDENT showed a specimen of Strangulated Pyosalpinx of large size The symptoms developed suddenly, evidently as a result of the sudden strangulation The condition was probably of tuberculous origin

Mr SPENCER SHEILL read notes and observations on several cases including one of Eclampsia —Dr TWEEDY had never been able to see the rationale of bleeding as a treatment for eclampsia It had been suggested that it removed poisons from the blood, but this he considered hypothetical It was mentioned that the patient s urine contained blood, and also that she was passing urine copiously at first , putting these two facts together he suggested that the blood resulted from kidney inflammation the result of concentrated and poisonous urine He submitted that even theoretically there was no reasonable foundation for bleeding unless an equal amount of fluid was put back Saline fluid seemed to him to be the most misplaced thing that could be introduced into the system under such circumstances A salt free diet was considered good for certain inflamed conditions of the kidney, and yet it was suggested in this case deliberately to introduce salt It appeared to him more reasonable to dilute the fluid put into the blood in such a case with carbonate of soda —Sir WILLIAM SMYLY believed in the bleeding treatment for eclampsia It was known that the blood in eclampsia was of high specific gravity and contained less water than usual , that it clots all over the body and that the arterial tension is very high and patients often die from apoplexy Bleeding made the blood thinner and less liable to clot The arterial tension is reduced and apoplexy prevented He considered the great difficulty in knowing anything about the treatment of eclampsia was that even with an enormous number of cases no very definite conclusions could be formed He did not consider that sweating and bleeding were at all the same He looked upon sweating in these cases as bad because it removed fluid from the body when the blood was already too thick —Dr B SOLOMONS spoke of the difficulties in the treatment of eclampsia in private practice There was no doubt that a maternity hospital was the best place for these cases —Dr FITZGIBBON agreed with bleeding in eclampsia if used in suitable cases A large number of cases occur in full blooded women, and such react favourably. The system of introducing saline under the breast had the effect of lowering the specific gravity of the blood.—Mr. Trevor Smith drew attention to the difficulty sometimes of bleeding patients suffering from eclampsia. He recognised that where the right side of the heart was overloaded, bleeding was of the greatest use.—Mr. Sheill, in reply, mentioned that none of the cases of eclampsia he had seen ever suffered from post-partum hæmorrhage. As to the difficulty in getting the blood to flow, he thought once the vein was found this disappeared. He did not agree that the putting of saline in under the breast had the same effect as bleeding, as saline absorbed into the blood might be as rapidly excreted, whereas in the treatment recommended of bleeding, some of the solid matter of the blood was withdrawn and also some of the poisons. He was convinced that the blood in these cases was toxic, and that the removal of some of it would reduce the pressure and also some of the toxins. Altogether he thought that the weight of evidence went to show that bleeding in eclampsia was a good procedure. He considered that an operation performed for sterility had no influence in the development of eclampsia when a pregnancy supervened.

Leeds and West Riding Medico-Chirurgical Society.—A meeting of this society was held on Dec. 12th, 1913, Mr. W. R. Bates, Vice-President, being in the chair. —Mr. J. E. Middlemiss showed a case of Bronchial Asthma, associated with Pregnancy, treated by Hypnotic Suggestion. The patient was a married woman, aged 25, who had suffered from bronchitis since childhood and for the last two years from recurrent attacks of typical bronchial asthma, increasing in frequency and severity, until latterly they occurred once a week or oftener. Her health was much disturbed in consequence. There was almost constant dyspnœa between the attacks. She was unable to walk out alone and unable to assume the recumbent position at night. She had been twice operated on for some nasal or post-nasal obstruction before the asthma began, about five years ago. The patient was first seen in July last during a typical attack of bronchial asthma. She was then six months pregnant and looked very ill and was suffering from chronic laryngitis. The usual medicinal remedies were given and the attack subsided. Suggestive treatment began immediately after. Sittings were given three times a week to begin with, later once a week. She proved readily susceptible to hypnotism at the first sitting. At the second sitting there were complete muscular relaxation and amnesia during sleep. On subsequent occasions first hypnotic suggestions were readily carried out, and the patient conversed without subsequent recollection. Suggestions were given that the attacks would be less violent and less frequent and eventually would cease. Complete cessation of the attacks was insisted upon as treatment advanced. The result was that the patient had been free from asthma up to the present time. Her household duties had been resumed and she was able to lie down flat at night—almost an unprecedented occurrence. The huskiness of the voice did not subside until after some nine weeks of treatment. Labour occurred at term without complication.—Dr. T. Churton showed several cases of Nervous Disease, also cases of Bronchiectasis treated successfully by the Postural Method.—Dr. R. A. Veale showed (1) a case of Spastic Paraplegia in a woman aged 24; (2) a case of Disseminated Sclerosis in a woman aged 29; and (3) some cases of Skin Disease.—Dr. C. W. Vining, in conjunction with Dr. W. H. Maxwell Telling, showed a child, aged 9, with a clinical condition strongly indicating General Paralysis. The symptoms began three months after a blow on the head 20 months ago. The child's general mental condition had changed; he was now destructive, restless, silly, and dirty in his habits The pupils, the reflexes, and the tongue were typical of the condition, and both the blood serum and cerebro-spinal fluid were markedly positive to the Wassermann test.—Dr. Vining also showed a case of Traumatic Neurosis in a man, aged 35, following a fall on the back 18 months ago. The symptoms were hysterical rather than neurasthenic. The objective signs were (*a*) greatly exaggerated reflexes of the limb; (*b*) a coarse tremor of the intention type; (*c*) partial anæsthesia of the palms of the hands; (*d*) a one-sided stamping gait; and (*e*) a reduction in the field of vision of one eye. The main subjective phenomena were headache, insomnia, and loss of confidence.—Cases were also shown by Dr. C. Oldfield, Mr. H. Collinson, Mr. S. W. Daw, Mr. J. A. Coupland, Mr. Alex. D. Sharp, Mr. A. L. Whitehead, Mr. H. Secker Walker, Mr. R. Lawford Knaggs and Dr. G. W. Watson, and Mr. J. F. Dobson.

United Services Medical Society.—A meeting of this society was held on Dec. 11th, 1913, Colonel Bruce M. Skinner, A.M.S., the President, being in the chair.—Surgeon-General Sir Launcelot Gubbins, Director-General of the Army Medical Service, read a most interesting paper on the Life and Work of Jean Dominique, first Baron Larrey. He touched briefly on the early life and education of the subject of his paper, and pointed out that Larrey first joined the navy, but after six months, taking a dislike to the service, retired and returned to Paris in 1789, where he took part in the French Revolution. In 1792 Larrey commenced his long and valuable military career, during which he was present at a great number of engagements. It was during operations around Mayence and Frankfort in 1792 that Larrey was struck by the unsatisfactory methods that existed for dealing with casualties. The plight of the wounded made such an impression on his mind that he conceived the idea of giving them immediate succour. This found expression in the invention of the *ambulance volante* which could keep pace with the fastest battery of artillery. The next important step in Larrey's career was his appointment as professor of surgery and anatomy in the Military School of Medicine at the Val-de-Grâce. In 1797, however, he was ordered to join the army of Italy, and there was brought into official contact with Bonaparte for the first time. Larrey was ordered to make arrangements for tending the sick and wounded, and he organised his *ambulance volant* in three divisions. He was warmly congratulated by Bonaparte on the result of his labours. In 1798 Larrey took part in the campaign in Egypt, and performed a most heroic act in saving a general's life. Larrey's fame was now well established, and he was received with great enthusiasm on his return to Paris. Among other campaigns in which he took a part was that in Russia in 1812, including the historic retreat from Moscow. At Waterloo Larrey was severely wounded by the Prussian cavalry while endeavouring to withdraw his ambulances; he was captured and sentenced to be shot, but was rescued by a Prussian surgeon-major who had attended his lectures years before. He died at the age of 76 at Lyons on his return from Algiers, where he had been on tour of inspection of the hospitals. Sir Launcelot Gubbins contrasted Larrey with his contemporary in the British army, Sir J. McGrigor, Bart., and laid stress on the fact that the former was more of a surgeon than an administrator, while the latter was mainly an administrator.—At the conclusion of the paper a discussion took place in which the following officers participated: Surgeon-General Sir J. Porter, R.N. (retired), the President, Lieutenant-Colonel A. B. Cottell, R.A.M.C., and Major H. A. L. Howell, R.A.M.C.—Sir Launcelot Gubbins having replied, a hearty vote of thanks was accorded him for his paper.

Æsculapian Society.—A meeting of this society was held on Dec. 19th, 1913, Dr. David Ross, the President, being in the chair.—Dr. Harold Mowat read a paper on the Value of Radiography in the Diagnosis of Cases both Surgical and Medical. He described the former method of giving a meal and bismuth before examination by the fluorescent screen, also the method of Dr. A. C. Jordan, the simpler one. Plates of the normal and proptosed stomachs were shown, also one having an irregular outline probably due to old ulceration and adhesions; and of stomachs and intestines at different intervals after the bismuth feed. He also showed several plates demonstrating enlarged bronchial glands, pulmonary tuberculosis, "the hanging heart," and aortic aneurysm. On the fluorescent screen he demonstrated a proptosed stomach in a thin woman and aortic aneurysm in a man aged about 50 years.

London Dermatological Society.—A meeting of this society was held on Dec. 16th, 1913, Dr. Morgan Dockrell, the President, being in the chair.—Clinical cases were shown by Dr. S. Gooding, Dr. J. L. Bunch, the President, Dr. W. Griffith, and Dr. W. K. Sibley. Among Dr Sibley's cases were two of Exfoliative Dermatitis. The first occurred in a man aged 47. There was an infiltration and desquamation of the skin, and from the generalised glandular enlargement he thought the case might be an early stage of mycosis fungoides. In the second, which occurred in a man aged 42, a policeman from India, there was no glandular enlargement, and the condition was rapidly yielding to treatment.—Mr. W. Hampson read a paper on the Dosage of X Rays, the discussion on which was adjourned.

Reviews and Notices of Books.

Digestion and Metabolism: the Physiological and Pathological Chemistry of Nutrition.

By ALONZO ENGLEBERT TAYLOR, M.D., Rush Professor of Physiological Chemistry, University of Pennsylvania, Philadelphia. London: J. and A. Churchill. Pp. 560. Price 18s. net.

THE disorders of digestion and metabolism are so numerous and of such importance practically that a knowledge of the chemical processes concerned is a necessity for the practitioner, in regard both to diagnosis and to the right appreciation of the principles of treatment. Professor Taylor states in his preface that the aim of his book is to describe the chemical changes in normal and abnormal digestion, and to explain the known metabolic modifications that food materials undergo within the body. He presents the present state of our knowledge in regard to these problems in an interesting as well as an original manner. He discusses the results of the application of modern physico-chemical methods to the study of the physiological and pathological chemistry of digestion and metabolism, and he considers the processes concerned dynamically rather than statically. Owing to the advances that have been made the chemical reactions referred to are sometimes complex, and the physico-chemical problems discussed are often intricate, but Professor Taylor writes with such an easy and lucid style that he invariably succeeds in rendering even the more difficult problems intelligible and interesting.

The book is divided into eight chapters, of which the first deals with the composition of foodstuffs. The three natural groups of carbohydrates, fats, and proteins are first considered and their chemical relationships are clearly outlined. The food values of certain raw and cooked foods are then given in tabular form. The second chapter is devoted to a closely reasoned and instructive discussion of the theory of ferment action. Fermentations are regarded as accelerations of existing reactions, and are thus classed with the reactions of catalysis. The chemical reactions of fermentations, the reversal of ferment actions, the nature of ferments, and the modes of their action are all considered at length. The chapter concludes with a discussion of the specificity of ferment action, and taken as a whole is an instructive presentation of a complex and difficult subject. The third chapter deals with digestion, and contains a full description of the various digestive processes, occurring in the mouth, stomach, and intestines. The ferments concerned are all dealt with in detail, and the range of their activity and their mutual reactions are considered. The dynamic method used so effectively by Professor Taylor naturally lends itself to a presentation of the powers of adaptation and compensation in the several functions of digestion, which are shown to be very great. The great importance of the motor functions of the stomach is emphasised, and the relatively secondary rôle played by its digestive functions is clearly shown. The relative importance of the three ferments, pepsin, trypsin, and erepsin, in the cleavage of proteins is worked out. An interesting account is given of the absorption of the products of digestion and of the synthetic processes effected therein by the intestinal epithelium. The fourth chapter is devoted almost entirely to the consideration of the metabolism of carbohydrates, both under normal conditions and in disease. The pathological chemistry of both experimental and human diabetes and the problems connected with it are clearly presented and critically discussed. Professor Taylor uses the terms "glycogenesis" and "glycolysis" when referring to glycogen, and writes of glucolysis and glucosuria when discussing the destruction of glucose and its presence in the urine. In the next two chapters the metabolism of the fats and proteins is considered in the same detailed manner as was that of the carbohydrates. The anabolic and katabolic processes in which they are concerned are clearly discussed so far as our present knowledge permits. In connexion with the fats, the abnormal processes leading to acidosis are described. In the seventh chapter the metabolism of creatin and creatinin, and of purine and phosphorus, is examined. The subject of auto-intoxication is dealt with in a brief chapter, which is highly suggestive in its scientific analysis of this complex problem. A general survey of the problems of metabolism as a whole is given in the ninth chapter, together with a study of some of the abnormalities of nutrition. The concluding chapter is devoted to the discussion of the production of body heat and the regulation of body temperature.

We have nothing but praise for this interesting and suggestive book. It is admirably produced, well printed, and though dealing with abstruse problems is readable and clear.

Blood Pressure from the Clinical Standpoint.

By FRANCIS ASHLEY FAUGHT, M.D., formerly Director of the Laboratory of Clinical Medicine of the Medico-Chirurgical Hospital; Instructor in Medicine at the Medico-Chirurgical College, Philadelphia. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 281. Price 13s.

IN this volume the author has presented in easily accessible form the pith of medical literature bearing on the study of blood pressure in its relation to medicine, not only in cardio-vascular and renal conditions, but also in many diseases in which clinical observation has shown the information obtained by the sphygmomanometer to be of value.

After a brief consideration of the physiology of the circulation, a description is given of the chief forms of the sphygmomanometer now in use and the manner in which they are employed. The auscultatory method is rightly explained at some length, for by its adoption not only the systolic but also the diastolic pressure can be accurately determined, and hence the value of the readings is considerably increased. In order to obtain correct results by this method some practice is required, but when the various "phases" are fully understood, more reliable and more extended information can be obtained than by any other procedure.

The conditions resulting in hypotension are first discussed. It is shown, for example, that in aortic regurgitation a persistent and uniform high systolic pressure combined with an exceptionally low diastolic reading is found, thus yielding a large pulse pressure, and in doubtful cases this is an important diagnostic point. The effects of shock and collapse and of hæmorrhage in lowering the tension receive due attention.

A short chapter is devoted to a consideration of the indications of hypertension when no obvious cause can be discovered. Dr. Faught remarks that hypertension is a subtle condition often lurking where least expected. In accordance with other physicians he is of opinion that a permanent increase in blood pressure in a young adult or in one in early middle life, in the absence of discoverable change in the heart, blood-vessels, or kidneys, is always a sign of a chronic toxæmia; a poisoning probably arising from some error in metabolism or deficiency of elimination, either intestinal or urinary, or both.

The subject of high arterial tension in connexion with arterio-sclerosis and diseases of the kidney is then gone into, and stress is laid on the importance of laying down strict injunctions in regard to diet and the general mode of life which are required. The value of arterial tension in connexion with life assurance has naturally occupied the attention of the medical advisers to the life offices. The introduction of accurate methods of estimating the pressure will doubless lead to further research, but until a large amount of experience has been accumulated, judgment must be suspended. The results published by Dr. J. W. Fisher, of the Northwestern Mutual Life Insurance Company, are quoted, and the tables of mortality records certainly give rise for reflection.

We have perused this volume with much interest; it contains a great deal of interesting information which will be found of value in actual clinical work

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Practical Bacteriology, Blood Work, and Animal Parasitology, including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes.

By E. R. Stitt, A.B., Ph.G., M.D., Medical Inspector, U.S. Navy; Head of Department of Tropical Medicine, U.S. Naval Medical School, &c. Third edition, revised and enlarged, with 4 plates and 106 other illustrations, containing 513 figures. London: H. K. Lewis. 1913. Pp. 408. *Price 6s. 6d. net.*

In our review of the first edition of this work we noted the very practical character of the book and the probability that it would be found to meet the needs of a very large class of practitioners. From the rapid appearance of this, the third, edition it would appear that our prediction has been verified. An important characteristic of the book is its small size. Notwithstanding the considerable additions which have been made in this edition, it has been possible, by a judicious choice of type, to retain this essential feature, and at the same time to give indications of the relative importance of the subject matter. In the bacteriological portion numerous additions have been made which bring the subject up to date, and there has also been a thorough revision of the older material. As with most other works of this character, however, it is in the section on animal parasitology that the largest additions and changes have been required. The number of illustrations has been increased, and the original plate of the ova of intestinal worms which occupied one of the covers of the book has been replaced by excellent drawings, which find a place in the body of the book.

The general scheme remains unaltered, and it still retains as one of its principal features the arrangement of the material in the form of keys, tables, and summaries; additions have been made to these, especially in the section on urine and on intestinal bacteria. New sections have been added dealing with chemical tests of fæces and with disinfectants or insecticides, or, more strictly, with disinfection and destruction of insects. This section will prove very useful and presents the information in the severely practical form characteristic of the book.

The form of the work resembles that of previous editions and is satisfactory, though it suffers from the need to economise space. The book is not so suited to the need of the student as to that of the already trained practitioner. It would be difficult to find a book of so small a size which would prove more useful than this to those whose work is away from books of reference, whose service involves travel and residence in remote districts or in tropical countries.

Pathologische Anatomie. Ein Lehrbuch für Studierende und Aerzte.

Herausgegeben von L. Aschoff, Freiburg i.Br. Dritte Auflage, Erster Band: Allgemeine Aetiologie; allgemeine pathologische Anatomie. Mit 431 grossentheils mehrfarbigen Abbildungen. Zweiter Band: Spezielle pathologische Anatomie. Mit 660 grossentheils mehrfarbigen Abbildungen im Text und 1 lithographischen Tafel. Jena: Gustav Fischer. 1913. Vol. I., pp. 811; Vol. II., pp. 1040. Price M.31.50, Vols. I. and II.

The first edition of this book appeared as recently as 1909, but even a superficial study of the work makes it clear why a third edition should be required in 1913. The editor has been forced to exclude such special subjects as the pathological anatomy of the eye and ear, and the febrile processes. The two volumes deal with pathological morphology, and the author's aim is above all to make this work serve as a bridge connecting pathological physiology with clinical pathology. It has been translated into Italian, and might meet with great acceptance, we think, in an English garb.

The first volume deals with what we may term general pathology, and includes the following subjects: The Internal Causes of Disease, General Pathology of Cells, by R. Rössle (Jena); the External Causes of Disease, by M. Askanazy (Genf); Morphological Malformations, by E. Schwalbe (Rostock); Disturbances of Metabolism, by E. von Gierke; Disturbances of the Circulation, by A. Dietrich (Köln); the Formation of Protective Bodies and Immunity, by R. Kretz (Wien); Inflammation, by O. Lubarsch (Kiel); Pathological Growth, by M. Borst (Munchen). To each chapter is appended a bibliography, and even with the titles of journals and periodicals reduced till identification is most difficult, the list of these abbreviations runs to well over four pages.

Apart from the excellent printing and the scientific merits of the several contributions, there is one fact that stands out very clearly—viz., the exquisite beauty and artistic qualities not only of the illustrations in black and white, but, above all, of the coloured illustrations, which convince by the accuracy of their reproduction. The effects obtained on the surface paper used for text and colour alike far surpass those in some cases relegated to "plates." The illustrations are a triumph in colour printing.

The title of any chapter, such as that by M. Askanazy on the external causes of disease,

gives but a faint idea of the scope of the subject. This chapter alone extends to over 200 pages, is illustrated by over 100 figures, mostly coloured, and includes such subjects as injuries produced by heat, electricity, the pathological effects of light, X rays, changes of barometric pressure, mechanical injuries, chemico-toxic factors, and parasites as causes of disease, including what is known as to vegetable and animal parasites. The article on the general pathology of cells and tissues is both concise and suggestive, and is illustrated by 20 figures. E. Schwalbe's contribution on malformations is a crisp and valuable exposition of the subject, one of which the author is an acknowledged master. Perhaps for those to whom metabolism appeals more strongly t
the essay by E. von Gierk
turbances of metabolism
It is admirably set forth and well illustrated. The description of immunity and allied subjects by R. Kretz, considering the importance of the subject, is none too long. The same author deals with pathological growth, including the whole question of tumours, in a comprehensive manner.

The second volume, on special pathology, follows the usual classification of the pathology of special organs. The editor, L. Aschoff, is responsible for the articles on the heart and pericardium, urinary apparatus, female generative organs, and the digestive system; C. Benda (Berlin) for the blood-vessels; Herm. Schridde (Dortmund) for the hæmapoietic organs and thymus; O. Naegeli (Tübingen) for blood; M. B. Schmidt (Würzburg) for the motor apparatus; H. Beitzke (Lausanne) for the respiratory organs; P. Ernst (Heidelberg) for the nervous system; M. Simmonds (Hamburg) for the male generative organs; C. Sternberg (Brünn) for the liver, gall-bladder, and pancreas; E. von Gierke for the glands with an internal secretion, and L. Jores (Marburg) for the skin.

The coloured illustrations in this volume are also very good. In most of the articles—e.g., that on the heart and blood-vessels—a short description of the normal organ precedes the pathological, and when development is specially important, as in the *a.-v.* bundle of the heart, the importance of knowledge of development is both insisted on and illustrated. Some of the coloured illustrations in Benda's article are not only most artistic, but are reproduced with almost startling realism, more especially to one conversant with the newer methods of histological investigation and staining of sections. In connexion with the literature of the blood-forming organs we failed to find mention of the well-known atlas of Carnegie-Dickson on the red-marrow of bone, nor did we find it in the list of atlases under the head of Diseases of the Blood. The part dealing with the nervous system, even with its necessarily large array of Greek derivations, seems to us not on the same level as some of the other parts, at least as far as illustrations are concerned. The editor's exposition of the urinary apparatus is concise and illuminating. Surgeons might with profit consult the article on the male generative organs, and the same, perhaps even in a stronger degree, might be said as to gynæcologists and the dissertation on the pathology of the female generative organs. The article on internal secretions is well worthy of perusal, as are practically all the others, to which we cannot refer *in extenso*.

In our opinion this is one of the outstanding works dealing with pathological anatomy, both for students and practitioners, not only as regards the value and comprehensiveness of its textual matter, but on account of the vivid presentation in pictorial design of the anatomical and histological facts of pathological morphology.

Malaria: Etiology, Pathology, Diagnosis, Prophylaxis, and Treatment.

By GRAHAM E. HENSON, M.D. With an Introduction by Professor CHARLES C. BASS, Tulane University, New Orleans. London: Henry Kimpton. 1913. Pp. 190, with 27 illustrations. Price 10*s.* 6*d.* net.

IN this work, which it appears was written primarily for the use of general practitioners in malarious districts, Dr. Henson has compressed within the space of 190 pages the main points of so great a subject as malaria. In the introduction Professor Bass expresses his opinion of the author as one well fitted to carry out this difficult task, his experience and researches in respect of the disease for many years in one of the most intensely malarious regions of the United States having enabled him to deal with the subject from the most practical point of view. In eleven chapters Dr. Henson discusses malaria, firstly as to general considerations, then as to the etiology of the disease and the malarial parasites, the malaria-carrying mosquitoes, the other factors concerned in the causation of the malady; the pathology, sequelæ, and prognosis; the diagnosis; the latency, recurrences, and chronicity of the infection; the prophylaxis; and the treatment. The author thinks that the general practitioners in infected areas should regard the eradication of malaria as one of their most sacred duties. The early recognition and proper treatment of the disease are very important in connexion with prophylaxis, and for this reason Dr. Henson, in his book, has directed special attention to the diagnosis and treatment of malaria. Naturally, in a work in which the dealing with so great a subject has been compressed into 190 printed pages, some omissions have been unavoidable, but on the whole the information given is sound as well as practical, and it should prove of much service to those in the malarious districts of the southern portion of the United States, for whom the work was primarily written. A few misprints have occurred; one especially glaring will be found on the dedication page.

Tabular Diagnosis: An Aid to the Rapid Diagnosis of Diseases.

By RALPH WINNINGTON LEFTWICH, M.D. Aberd., late Assistant Physician to the East London Children's Hospital. London: Edward Arnold. 1913. Pp. 359. Price 7*s.* 6*d.* net.

APART from a preface and a brief chapter of introduction this book consists entirely of tables, of which there are in all 350, and an index. Each table occupies one page and is arranged in three parallel columns, of which the first is a list of symptoms, signs, and other clinical features, while the second and third give the character of these in the two diseases or conditions which are contrasted. At the bottom of each table the chief symptoms which the two diseases have in common are briefly stated, and explanatory notes are given of any unusual or special symptom or sign. The author has evidently devoted a good deal of energy to finding and including some of the recently described and little known diagnostic signs which the time of drinking in relation to meals, the use of alcoholic beverages, and so forth. The remarks on this latter subject are indeed judicious and reasonable. We do not think the reason given for discountenancing talking during meals—that it tends to cause bolting the food—adequate. There is a curious, and for those who have no independent knowledge very serious, printer's error on p. 52, where the weights of certain persons' brains are converted into decimals, by substituting a decimal point for the usual comma to separate off the thousands—thus, 2·102 grammes for 2,102 grammes, and so on through the list. Again, under "exercise," when we read of a three hours' walk daily, we wonder for what class of people the authors are writing—a very small one, we fear. An hour at most is the time available for many people who have to earn their living. The tone of the book is optimistic, and there are sound remarks on many subjects, particularly on the injudicious tendency to government by over many hard-and-fast rules, regardless of the unseen conditions of Nature regulating human progress.

The importance of some proper instruction of the young in sex matters is rapidly becoming recognised, and it is in view of this that the "Questions of Sex" Series, published by Cassell and Company, Limited, has come into being. Four volumes of this series lie before us, two for boys and two for girls. In the first of these, *What a Boy Should Know* (1913. Pp. 118. Price 2*s.* 6*d.* net), by Dr. A. T. Schofield and Dr. Percy Vaughan Jackson, information is given concerning sex differences and the generative organs, and the dangers from other boys and grown-up persons, as well as from himself, that menace the unwary youth. In a second of the series, *Before I Wed* (1913. Pp. 130. Price 2*s.* 6*d.* net), Sir Thomas Clouston discusses the physiology and psychology of the sex principle, the relation thereto of literature and art, the importance of heredity, health, eugenics and home, and so forth.——For girls also it is becoming realised that knowledge, not the innocence of ignorance, is the best armour against the temptations of after-life. In *Life and its Beginnings* (same series. 1913. Pp. 137. Price 2*s.* 6*d.* net), Dr. Helen Webb gives to mothers a charming little volume which they may fearlessly put into the hands of their children under 12. There is no reason why, as announced on the cover, it should only be "for girls under 12." A companion book for girls over 12 is *From Girlhood to Womanhood* (same series. 1913. Pp. 142. Price 2*s.* 6*d.* net), by Dr. Elizabeth Sloan Chesser. She does not confine her information and advice to matters physical, but has excellent chapters on the cultivation of enthusiasm, girls' loves and friendships, and the necessity of work to insure happiness in life. These volumes would have been of more widespread use had they been issued in a less expensive form.

A fourth volume, entitled *Youth* (London: Charles H. Kelly. 1913. Pp. 151. Price 1*s.* net, cloth boards 1*s.* 6*d.*), has now been added to the three "National Health Manuals," edited by Dr. T. N. Kelynack. This series is intended to prove of use in connexion with various social service undertakings. As the editor rightly points out in the preface to the present book, we are still in the experimental stage in regard to most matters relating to so-called social reforms, so that in order that we may not be led into serious error, through deficiencies or extravagancies, it is essential that scientific principles should be fully grasped and followed as the chart and compass of all attempted social progress. In the present volume various contributors deal with different topics. After an introduction by the editor, Sir James Crichton-Browne discusses growth and development in youth, Sir Thomas Clouston the psychology of youth, Mrs. Alice M. Burn, M.B., the hygiene of the adolescent girl, Dr. Athelstane I. Simey that of the adolescent boy, Dr. Robert Hutchison the diet of youth, Dr. John Lambert the occupations and recreations of youth, Dr. J. M. Fortescue-Brickdale the disorders of youth, Dr. Allan Warner education and youth, Sir Alfred Pearce Gould habits and youth, Professor James Alexander Lindsay the ethics of youth, and Dr. Robert Murray Leslie youth and citizenship.

Nerves (London: Williams and Norgate. 1913. Pp. 256. Price 1*s* net), by Dr. David Fraser Harris, Professor of Physiology in the Dalhousie University, Halifax, N S., is one of the useful series of volumes published under the general title of the "Home University Library." It is neither a physiological nor a psychological manual, but confines itself to an exposition, in phraseology as little technical as the nature of the subject will permit, of "the capabilities and peculiarities of the nervous system, more particularly of those regions whose activities are not associated with the rousing of consciousness." The general construction of the nervous system is indicated, and the mode of transmission of impulses, reflex action, coördination, the mutual coöperation of nerve impulses, fatigue and repair, sleep, and so forth, are plainly described. A glossary, a bibliography, and an index are appended.——The wisdom of the ancients is a fount from which all who will may lawfully draw their inspiration. When, on turning to the end of Dr. George Lincoln Watson's *Calm Yourself* (Boston and New York: Houghton Mifflin Company. 1913 Pp. 46. Price ·50 cents), one reads that the Emperor Antoninus Pius left the most effective monument to himself "when, after composing himself for his last sleep, he gave to a servant the watchword he had chosen for the night: Equanimity," one is irresistibly reminded of Osler's classical valedictory address at the University of Pennsylvania, which ends: "Gentlemen, Farewell, and take with you into the struggle the watchword of the good old Roman—*Aequanimitas.*" But similar as are the endings and identical as is the subject matter, this address by Dr. Watson at the Harvard Medical School treats the theme in an altogether different manner. It breathes the spirit of the practitioner rather than of the philosopher; it is a clinical lecture rather than an academic exhortation. He points out how much of the unpleasantness of life is due to traditional association—e.g., "tired and cross," as though the two things were necessarily bound up together. "Go home," he says, "after a hard day's work and say, 'Why tired and cross? Why not tired and good-natured?'" There is undoubtedly a great deal in that. Other maxims he gives, which can be varied *ad lib.*, for use under diverse conditions of disturbed mental equilibrium. The book would be a useful little manual of self-help for the timorous, the fretful, and the querulous.

JOURNALS AND MAGAZINES.

The American Journal of Tropical Diseases and Preventive Medicine. Vol. I., No. 4.—This journal, the official organ of the American Society of Tropical Medicine, is edited by Dr. Creighton Wellman, and published monthly at New Orleans, in which city the Tulane University of Louisiana, with a School of Hygiene and Tropical Medicine, is situated. The number before us contains a large amount of useful and interesting information. The first article is supplied by the editor, in conjunction with Dr. Howard D. King, and gives a list of all the varieties of mosquito reported as being found in New Orleans. Dr. Allen J. Smith and Dr. Oswald E. Denning describe a curious instance of a Worm, Agamomermis Restiformis, found in the urethra of a man from North Carolina. An informing article upon the Proper Diet in the Tropics, with some pertinent remarks on the use of alcohol, is contributed by Dr. Allan C. Eustis, of the School of Hygiene and Tropical Medicine, Tulane University. Dr. Eustis lays particular stress upon the dangers of a meat diet in the tropics. On the other hand, he sees no physiological reason why an occasional alcoholic drink will cause harm, but this practice if persisted in will give rise to overtaxing of the body "with a poison which the liver is taxed to oxidise in a climate in which there is no indication for same." The editor, in collaboration with Dr. Eustis and Dr. Leonard C. Scott, supplies a paper on the Rapid Cure of Polyneuritis Gallinarum by Intramuscular Injection of a Substance Isolated from Rice, with a note on the pathology of the disease. Dr. Alfred Moore contributes a report, with illustrations, of a case treated by him in the wards of St. Joseph's Hospital, suffering from Hookworm Disease, in which a remarkable amount of emaciation was observed. A very important bacteriological study of the Water-supply of New Orleans is furnished by Dr. Charles Louis Jacob. The supply is taken from the river Mississippi, and since 1901 it has been purified by the use of rapid mechanical filters, sulphate of alumina being the coagulant employed. Apparently there has been a continued prevalence of enteric fever in this city for a number of years, but contrary to expectation the introduction of the water purification plant in 1901 was not followed by any diminution of the prevalence. Dr. Scott regards the river as a polluted source of supply, and the amount of existing pollution is likely to go on increasing. Nevertheless, the effluent of the town filters is of "good sanitary quality." New Orleans, like many cities in the Southern States, is burdened with a large negro population, whose filthy habits and liability to the infection of enteric fever are well known. In the *Journal* are given also a number of short annotations by the editor on matters of interest, such as cholera in the Balkans, and sanitation and tropical agriculture.. News and comments, along with a review of current literature on tropical diseases and hygiene, complete the contents of a very readable number.

The Eugenics Review (London: Eugenics Education Society. Quarterly. Price 4*s.* 8*d.* per annum, or single copies 1*s.* 2*d.*) contains in its latest number the address on Eugenics of War, delivered by Dr. David Starr Jordan, Chancellor of Stanford University, U.S.A., at Sunderland House last July, in which the view of war as contributing to the virility of the human race is combated. A Criticism of Eugenics, by A. M. Carr-Saunders, which asserts that although many of the opinions usually held by eugenists may be capable of justification, such justification is at present lacking. In Depopulation and Eugenics (to be continued) Lucien March essays to show that first-born children are more susceptible to hereditary taints, and that last-born more frequently find a place among the distinguished members of society, while Sören Hansen endeavours to demonstrate the inferior quality of first-born children, not only at birth but as persistent in later life.

The Child (London: John Bale, Sons, and Danielsson, Limited. Price 21*s.* per annum; single copies 2*s* net). edited by Dr. T. N. KELYNACK, contains in its December issue an interesting account of the School Child in Japan, by Dr. Yasusaburo Takaki; Eurhythmics and Child Welfare, by Percy B. Ingram, which advocates the Dalcroze system of eurhythmics and contains some very Greek-looking pictures; the Legal Custody of Children, by A. E. Stanley Smith; Child Welfare in the United States of America, by Robert J. Parr; Child Welfare and the Responsibilities of Central Authorities, by F. E Fremantle, F.R C.S., F.R.C.P.; Baby Talk and School Speech, by Professor Walter Rippmann, M.A.; a Biographical Notice (with portrait) of Dr. Abraham Jacobi, of New York, "a pioneer and benefactor of child welfare," by Francis Huber, M D., B.S.; the Tuberculosis Preventorium for Children, by Alfred Hess, M.D.; and a paper on the Edinburgh Cripple and Invalid Children's Aid Society, by Miss C. Allan Dow.

KING'S COLLEGE, LONDON: LISTER MEMORIAL.—A tablet to the memory of Lord Lister will be unveiled in King's College, London, by Lord Rayleigh, Chancellor of the University of Cambridge, on Wednesday, Jan. 14th, at 4.30 P.M.

NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY.—A post-graduate course of lectures on the Feeding and Care of Infants, with Special Reference to the Milk Problem, will be given under the auspices of the above association on successive week-days from Jan. 12th to 22nd at various places in London. The lecture hour will be 10 A.M. and 8 P.M, with additional lecturers in the afternoon or visits to nursery training schools, schools for mothers, or similar institutions. On Jan. 12th, at 5 P.M., Professor G. F. Still will give the introductory address of the course at the Royal Society of Medicine, 1, Wimpole-street, his subject being Preventive Methods in Relation to Infant Mortality. Other lecturers include Dr. H. C. Cameron, Dr. E. Cautley, Dr. David Forsyth, Dr. Major Greenwood, jun. Professor A. Harden, Professor H. R. Kenwood, Dr. A. E. Naish, Dr. Eric Pritchard, Dr. John Robertson, Dr. Amand Routh, Dr. Harold Walker, and Dr. Mackenzie Wallis. The complete course is intended for medical men at an inclusive fee of £1 1*s.*, but the course of evening lectures and certain of the other lectures, including the introductory address, are open to non-medical persons on payment of 5*s.* or 10*s.* respectively. As far as accommodation will permit, infant consultations on Thursday afternoon can be attended by non-medical persons. Full particulars can be obtained from the secretary at 4, Tavistock-square, London, W.C., to whom all fees are payable. It is requested that application for tickets should be made immediately.

# Reports and Analytical Records
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THE LANCET.

LONDON: SATURDAY, JANUARY 3, 1914.

Humanism and Medicine.

THE beginning of a New Year forms for all thinking people a convenient place in the calendar at which to register their experiences of the past and to form plans for the future; but such revisions and provisions, to have full value, should not be too limited, for any tendency to regard the separate years as isolated periods rather than as artificial divisions of continuous time, betrays us into an exultation or depression of spirits neither of which may be warranted by fuller consideration. No one can deny that the calling of medicine in this country is passing through a very anxious phase, and while certain of the changes that have recently been brought about in our professional life are very commendable, there are others which are repugnant to the better feelings of many, and some which may yet be found of most unfortunate tendency. It is absolutely necessary to regard the legislation for national insurance against sickness and its results as a phase in a consecutive story—the story of the development of medical practice; we may deplore the machinery inflicted upon that development—and some here even go so far as to speak of retrogression—but we have to own that the legislation followed upon a wider understanding by the public of the essential part that medicine must play in social reform. No separation between panel practice and other medical practice is possible in the minds of those who take this larger survey. They will see in panel practice an expression of the desire of the people to enjoy the ministrations of medicine in a fuller measure; they will know that the truths of medicine are the same however disseminated; and they will be inspired by a certain hope that experience, and the same anxiety for scientific assistance which led to the new legislation, will also lead to the perfecting of the laws to any extent that may be found necessary. The outlook for 1914 is not one of gloom. The public demand made upon medicine, upon every branch, section, and division of our calling, is that we should assist in the improvement of the social, moral, and physical conditions of the State. In our response we must use such legislation as is fitted, and must work for any innovations or reforms that are found necessary. So will the story from year to year be one of progress.

It is a remarkable testimony to the influential evolution of medicine that well-nigh day by day a medical side to all things makes its appearance, compelling from intelligent people a recognition of the spread of our science. The recognition is as good for medicine as it is for the world at large, for medicine is essentially one of the branches of human learning that require the coöperation of humanity in their development. And this diffused interest in medicine has to our minds a close parallel. The humanists during the great Renaissance of the sixteenth century estimated and distributed the stores of classical literature placed at the disposal of the world by the revival of learning, seeing in them the food and instruction necessary for a vast journey forward in civilisation. The efforts of the humanists were all in favour of social betterment, and although nothing was more foreign to their declared objects, and nothing more hidden from the leaders of that superabundant artistic movement, they were heralding the abolition of the rampant constitutional and religious abuses of the day. Something of the sort has been taking place in the educated world of late, where the essential truths of medical doctrine have been receiving an increasingly wide appreciation; and it is reasonable to suppose that the time may be close at hand when every educated person will have his grounding in natural philosophy, as every educated person, from the days soon after the Renaissance until the latter half of the nineteenth century, was supposed to be well read in the classic literature of Greece and Rome. To-day a familiarity with *litteræ humaniores* is not a proof of learning; it is recognised alike that some who possess this familiarity are in no sense intellectual leaders, and that many whose classical equipment is negligible or absent are the forceful spirits among us—the most alive to what is taking place in the world of affairs, and the most prescient as to probable sociological developments. This is not said with any idea of belittling what the study of the classic authors has done for the world. At no time did it make a great number of classical scholars, but it has to be recollected that no such intention was ever formulated by anybody. The erection of a knowledge of classics into a career, other than for the professors of the various subjects, was not contemplated deliberately; the fact that our judges and our bishops, many of them, and that our legislators in a still larger proportion, were the men who in their youth had excelled in scholarship was an acknowledgment following the implied teaching of the Renaissance that on a foundation supplied by Greece and Rome would civilisation best expand. It was therefore natural that those who aspired to take a prominent part in the expansion should know how those foundations were laid. The classics were cultivated because with the revelation of the wisdom, splendour and humour enshrined therein, there grew up a conviction that herein was given a general instruction in the affairs of life which could be assimilated in conjunction with, or as supplemental to, the teachings of religion. In our country this conviction was well-nigh unchallenged until the beginning of the Victorian era, but during the past half century the general mental attitude has perforce greatly changed. The various developments of civilisation have made a call upon students for specialised intelligence in directions where classical equipment has but a secondary use. There will always be room for the great scholars, and it is essential that the world should not lose the value of the lessons taught by classical study. But many of our students never became classical scholars, when it was believed that in this direction lay the best practical equipment; now that we believe otherwise it has become unreasonable to press classical learning, in any but a rudimentary form, upon the bulk of them. For many the classical education remains valuable because the framework of their professional studies is of a classical pattern; but to-day the subjects in which the public instinctively seeks instruction are those of natural philosophy. And as in response to increasing sentiment in this direction a scientific education becomes the equipment of more cultivated men, a prospect is opened up for medicine sufficiently splendid to dispel any temporary depression. No greater stimulus can scientific medicine receive than the coöperation of an enlightened public.

The spread of learning among civilised nations is now and certainly taking more and more the form of scientific instruction, and we may expect the same sequence of events as followed the rise of general classical learning. The Renaissance opened the minds of men to take a more comprehensive view of life, and stimulated among them a demand for responsible government, a respect for expert advice, and an unwillingness to swallow as incontrovertible truths things which depended only on deformed traditions. And thus will education in the principles of natural philosophy act. There will be no plethora of men of science, just as under the old *régime* there has been no plethora of classical scholars. But the learning instilled will be of more direct use to a larger number of students, and it will inevitably follow that the principles of medicine, whose transformation in so many directions into an accurate science, or blend of sciences, proceeds apace, will become familiar to the well-instructed classes. From this time forward the world will become a better and a happier place, for true medicine must ever be found on the side of peaceful reform. Already we have seen political annexation made effective by the teachings of medicine; wars are entered upon with a heavier heart now that rulers and counsellors know that the conditions of warfare are such as to defy the principles of common humanity as indicated by our science; pathological studies have altered practical geography by their assistance to the canalisation of Panama; and social reform in all the nations is one long application of the teachings of hygiene, whether directed towards eugenics, the promotion of education, or the abolition of poverty and disease. We are assisting in an age of boundless promise for scientific medicine. The stirring reflection is needed for our support during a period of considerable unrest.

◆

Calcutta's Health Problems.

THE report which the Acting Health Officer of Calcutta has prepared on the health of that city for the year 1912 is a remarkably complete and interesting volume, which contains, in addition to much detail of an enlightening character, diagrams and graphic illustrations which serve at a glance to demonstrate the points which it is desired to urge upon the attention of the reader. These points are of the greatest topical interest, though the facts which illustrate them are more than a twelvemonth old.

The death-rate of Calcutta for 1912—namely, 28·1 per 1000—was slightly higher than that of 1911, but compared with the mean ratio of deaths per 1000 during the previous five years, which was 34·5, it gives most satisfactory evidence of the gradual improvement which has been made in the sanitary condition of the city. But the point brought out to which we would call attention is the mortality amongst females. This reached the high figure of 36 per 1000, against 23·9 per 1000 in the case of males, figures in striking contrast to the almost universal experience in European countries, but remarkably similar to that described quite recently by our correspondent in Constantinople. This being so, it is interesting to consider the causes. "One of the principal causes of this terrible mortality," says the report, "is almost certainly the custom of secluding the women of the house in the Zenana. In order to secure privacy at all costs the ventilation and lighting of the minor portions of the house are too frequently neglected." India and Turkey are here in a like case. The effect of these conditions is reflected in the excessive prevalence of pulmonary tuberculosis amongst females. In Calcutta twice as many more females than males die from that disease every year. In this connexion it is disappointing to learn that the proposal to establish a Calcutta tuberculosis establishment was postponed for a year. Apart from the question of its use as a means of treating suitable cases a tuberculosis dispensary can be made an educational institution of great value. It should teach the value of fresh air, the danger of spitting, and other simple rules, the effect of which, like that of most beneficial teaching, would radiate far beyond those immediately affected. Much can be done here, too, by the sympathetic cooperation of enlightened women. Speaking of the work done by the female sanitary inspector, the report urges the necessity of a large staff of "health visitors"—at least one for each district of the city. "Some day we may see the educated Bengali ladies visiting their poorer sisters in the bustees and giving them simple lessons in hygiene." No work which women who desire to advance their race can undertake could, we think, exceed this in result, as helping to remove the superstition and ignorance of their poorer sisters.

Such work also would go far to reduce the enormous amount of preventable infant mortality, the details of which form so depressing a feature in the report. During 1912 5044 deaths occurred among infants in Calcutta, giving the high rate of 259 per 1000, yet even so the outlook, says the report, is distinctly encouraging when the records of the last 20 years are considered. This, we think, only serves to show the immensity of the problem and the great scope for improvement. For so much of this mortality is due to preventable causes. Out of the total number of 5044 deaths, 1845 died before they were a week old—that is to say, that 36·5 per cent. of the total infantile mortality occurred during the first week of life. That is sufficiently deplorable, but still more deplorable is the fact that 33 per cent. of the deaths among infants under one month is preventable. "Such a state of things ought not to be tolerated in any civilised community," says the medical officer, and few, we think, will be found to disagree with him. It is a condition of affairs which calls for immediate attention, but what do we find? Most of these deaths are due to improper treatment at childbirth. The Calcutta corporation employs four midwives, and excellent results have attended their efforts to reduce the fearfully high mortality, yet proposals to increase the number of midwives have been negatived. It is astonishing, we should say it is incredible, that such indifference to the loss of human life and to human suffering could exist did we not know of many other municipal instances where finance has been considered before lives. In this connexion much might be done by enlightened Indian ladies visiting and instructing their poorer neighbours, and we applaud the movement that is taking place in this direction. Other reforms also are foreshadowed, and perusal of the latest official account of the public health of one of our most important capitals leaves us with the gratifying certainty that the affairs of the British Empire are being carried on with a great regard for the principles of public health. May this spirit remain and progress, for in this way do we, as an Empire, justify our wide-ranging rule.

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Progress of State-aided Treatment for Cases of Tuberculosis.

SOME useful particulars of the provision made by public authorities in England for the treatment of tuberculosis are contained in the Public Health and Local Administration Section of the Annual Report of the Local Government Board for 1912–13, which has now been issued.[1] This department is charged with distribution of grants in aid to local authorities for tuberculosis treatment, some for current expenses of "maintenance," and others for capital expenditure on the provision of institutions. For the latter a fixed sum of £1,116,156 was made available in England under the Finance Act, 1911. Up to August 30th, 1913, the latest period covered by the report, only some £13,400 had actually been paid, but in many cases buildings are in progress towards which grants are being made in instalments. At the date mentioned, also, plans had been submitted to the central office by local authorities for the provision of nearly 3000 additional beds in institutions for the treatment of tuberculosis, while many authorities had plans in preparation for the provision of new institutions or for additional accommodation in existing institutions. In the case of capital grants made for hospitals, dispensaries, or other institutions belonging to bodies other than local authorities, the Local Government Board requires an agreement that the institution should be handed over to the local authority free of debt in the event of the governing body failing to maintain it in a manner approved by the Board.

As regards the cost of maintaining "institutional treatment of tuberculosis"—a term which appears to include dispensary treatment as well as that given in sanatoriums and hospitals—the report estimates that a main dispensary with its branches for every 100,000 of the population should cost about £1000 per annum, or 2·4*d.* per head of the population. Sanatorium or hospital beds, on the scale of 1 for every 5000 of the population and at 30*s.* per week for sanatorium beds and 27*s.* 6*d.* per week for hospital beds, should represent a further annual cost of about 7·1*d.* per head of the population for "residential" treatment. The gross annual cost of a complete local scheme is on this reckoning about 9·5*d.* per head of the population. Towards this, in the case of the insured, the repayment possible from insurance funds is about 8*d.* per insured person. The deficit has to be added to the cost of treating non-insured tuberculous cases, the total forming a charge on each local area, of which Government funds bear a half, if the Local Government Board is satisfied with the local arrangements.

The report states that up to August 30th local schemes for tuberculosis treatment had been submitted which relate to over 75 per cent. of the population of England. What are termed "complete" schemes of institutional treatment had been prepared by 34 out of the 50 English county councils and by 50 out of 72 English county borough councils. Approval had been given to the appointment of 108 "tuberculosis officers," 63 in counties and 45 in county boroughs. In nine of the cases the approved tuberculosis officer is also the local medical officer of health, but the report indicates that this arrangement must necessarily be exceptional. The ordinary function of the medical officer of health in the matter lies in executive and organising, and not in clinical work. The tuberculosis officers referred to are those engaged in dispensary, domiciliary, or consultative work, and do not include, as a rule, medical officers of sanatoriums or special institutions for tuberculosis, although some of them may have charge of tuberculosis beds in local hospitals. The report gives the total number of hospitals which the department has approved, temporarily or otherwise, for the treatment of tuberculosis as 211, of which 15 sanatoriums and 87 isolation hospitals are institutions provided by local authorities, and 88 sanatoriums and 21 general hospitals are provided by voluntary bodies. The number of beds thus provided by local authorities up to August 30th was 3397, and by voluntary bodies 4016. In regard to London, the report gives special consideration to the rather bewildering negotiations and arrangements with which the Local Government Board and the numerous administrative bodies concerned have so far been occupied.

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[1] Forty-second Annual Report of the Local Government Board, 1912–13 Part III. Cd. 6982. London: Wyman and Sons, Fetter-lane; Edinburgh: H.M. Stationery Office; Dublin: E. Ponsonby. Price 2*s.* 5*d.*

Annotations.

"Ne quid nimis."

THE NEW YEAR HONOURS.

The medical names appearing in the list of recipients of New Year Honours are not very numerous, and attention might be called to one or two omissions; but all the men selected for distinction, to whose services it is our pleasure to call attention, may be congratulated upon having thoroughly earned their titular rewards. Sir Christopher Nixon, a former President of the Royal College of Physicians of Ireland, and one of the most prominent members of the medical profession in that country, is to be sworn of the Irish Privy Council. Sir Thomas Joseph Stafford, the only new medical baronet, is the Medical Commissioner of the Local Government Board in Ireland. Knighthoods have been bestowed upon Surgeon-General A. T. Sloggett, R.A.M.C., Director-General of the Army Medical Service; Dr. T. B. Nariman, of Bombay, physician to the Parsi Lying-in Hospital in that city; and Dr. Harry Brookes Allen, professor of pathology and Dean of the Faculty of Medicine in the University of Melbourne. In the Royal Victorian Order Sir Rickman Godlee, President of the Royal College of Surgeons of England, and Sir William Job Collins, who has been a prominent Member of Parliament, Vice-Chancellor of the University of London, and chairman of the London County Council, receive the Knight Commandership. Major James Currie Robertson, I.M.S., Sanitary Commissioner with the Government of India, has been appointed C.I.E. Surgeon-General Harold George Hathaway, Deputy Director of Medical Services in India, receives a C.B. The Kaisar-i-Hind Gold Medal for Public Service in India has been awarded to Dr. William Stokes, chief of the Medical Mission Hospital at Calicut; Dr. Marcus B. Carleton, in charge of the Leper Hospital at Subathu; and Dr. James Shepherd, also in holy orders, in charge of the Medical Mission at Udaipur. Sir Arnold Theiler, who has been appointed K.C.M.G., is the Director of Veterinary Research in the South African Agricultural Department; and Major J. D. E. Holmes, D.Sc., who is appointed C.I.E., is the bacteriologist in charge of the Imperial Veterinary Laboratory at Muktsar. Among other recipients of honours we may also mention Sir James Thomas, who built and equipped the Cardiff Medical School, and Sir Robert Blair, education officer of the London County Council, who have received knighthoods; and the Rev. Paul Wagner, superintendent of the Leper Asylum at Orisa, who has received the Kaisar-i-Hind Gold Medal. Surgeon-General Arthur William May, C.B., Director-General of the Medical Department of the Navy, has been appointed honorary physician to the King. The editor of *Punch*, scholar and man of letters as well as a great humorist, Mr. Owen Seaman, has been knighted. To all these we beg to offer the congratulations of the medical profession upon their well-deserved distinctions.

OUR POET LAUREATE.

The medical profession will always have a proprietary pride in Dr. Robert Bridges as a Poet Laureate who has been a practising physician. In primitive communities the tribal bards, who were the forerunners of Poets Laureate, exercised the functions of a medical man in that they treated wounds and illnesses by incantations—i.e., by charms (carmina) recited over the sick man. In the twelfth–thirteenth century Gilles de Corbeille showed that a medical man could also write almost classical Latin verse, and in later years the medical profession can number among authors of verse, if not of poetry, Blackmore and Garth, the latter of whom in "The Dispensary" held up the former to ridicule by quoting pompous balderdash from his "King Arthur." Another medical verse writer was Akenside, who in his youth wrote at least one charming poem, "The Pleasures of Imagination," and yet another was Armstrong, who composed a didactic treatise in verse called "The Art of Preserving Health," and was not very inspiring in the result. But even Lucretius, we imagine, would have failed to make the processes of digestion poetical. Armstrong certainly did not succeed. He seems to have been impressed by the "dura ilia messorum," for in Book II. he says:—

> "Nothing so foreign but th' athletic hind
> Can labour into blood. . . .
> His daily labour thaws
> To friendly chyle the most rebellious mass
> That salt can harden, or the smoke of years;
> Nor does his gorge the luscious bacon rue."

But in the present holder of the ancient and honourable office of Laureate we have one who is not only a skilled physician but a very real poet, and his virtues and versatility have recently been set forth by a brother poet, Dr. T. H. Warren, the professor of poetry in the University of Oxford.[1] Dr. Warren's lecture is in no way a critique of Dr. Bridges's art, but a graceful introduction to and mention of his work. It is pleasing to see the head of a house and a professor who can descend from the Olympian heights, where all heads of houses dwell, to make jokes, and Dr. Warren's wicked perversion of the Vincentian canon *apropos* of Dr. Bridges's shrinking from the "popularis aura" is happily conceived, and we are sure that the professor of poetry, who is himself a finished scholar, must have welcomed with joy the witty allusion to the new Poet Laureate's skill in writing triolets, "Nectera at hoc tria olet," which appeared in the current epilogue to the Westminster Play, as well as the allusion to the new prosody. Besides various extracts from Dr. Bridges's English poems, including, we are glad to see, the "Elegy on a Lady whom Grief for the Death of Her Betrothed Killed," which recalls the best work of Herrick and Spenser, Dr. Warren mentions the clever and almost unknown "Carmen Elegiacum de Nosocomio Scti Bartholomaei," published in 1877. This was an account of the hospital and its staff. Another work to which Dr. Warren refers is the delightful account of the casualty department given by Dr. Bridges from personal experience in the St. Bartholomew's Hospital Reports for 1878. This is written in the gravely ironical style, the secret of which the cultivated physician would appear to possess almost more than the members of any other profession. To pass to another side of Dr. Bridges's art, the professor of poetry recalls his knowledge of and love for music as exemplified in the Yattendon Hymnal, a work which is far less known than it should be, both on account of the beauty of the hymns selected or written by Dr. Bridges himself, and also for the magnificent and dignified tunes. The whole medical profession is proud of Dr. Bridges, and we may add owes a debt of gratitude to Dr. Warren for this charming tribute.

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[1] Robert Bridges, Poet Laureate, Readings from his Poems; a Public Lecture delivered in the Examination Schools on Nov. 8th, 1913, by T. Herbert Warren, M.A., Hon. D.C.L., President of Magdalen College, Professor of Poetry. Oxford: at The Clarendon Press. 1913. Pp. 38 Price 1s. net.

THE MEDICAL STAFF OF THE METROPOLITAN ASYLUMS BOARD.

ON the question of the salary to be attached to the position of medical superintendent of Darenth Industrial Colony, made vacant by the appointment of Dr. Arthur Rotherham as one of the Commissioners under the Mental Deficiency Act, and the method of filling the position, the Asylums Committee of the Metropolitan Asylums Board presented a report dealing with the whole question of the relations of the Board with its medical staff. The committee in this report did not see how the Board, in respect of the position at Darenth, could increase the maximum to be offered to an individual, at present unknown, beyond that which, only six months ago, it decided was the proper amount to pay Dr. Rotherham after a proved successful career, during which he had brought the work to its present admittedly high state of efficiency. Dr. Rotherham's maximum having been £900 with emoluments, the committee proposed a salary for the next holder of the office beginning at £700 per annum, rising by annual increments of £50 to £900, with emoluments of unfurnished house and washing. The committee said it might be admitted at once that the proposed salary would not attract into the service medical superintendents of important county asylums, but from a return of salaries paid at those asylums it was clear that to do this would involve such a very substantial addition to the proposed salary as would not only be in conflict with the decision arrived at in Dr. Rotherham's case, but would in fairness involve an immediate reconsideration of the salaries of all of the medical superintendents in the service. That being so, the field outside the Board's own service from which candidates would be drawn was restricted to a few medical superintendents of smaller asylums and to assistant medical officers, and there was no reason to suppose that, if it were eventually found necessary to advertise, the remuneration would not be sufficient to attract such candidates. As to the steps to be taken to fill the position, the committee wished to consider the claims and qualifications of officers already in the Board's service for the following reasons. It was well known that for some time past there had been the greatest difficulty in securing candidates for vacancies as assistant medical officers in the asylums. This difficulty was certain to be increased if it was once understood by possible candidates that as soon as there was a higher post to fill it was the Board's practice to search outside the service without first even considering the claims of officers who had been in it for some time. If this was to be the practice it was only right that candidates should be warned of it at the outset instead of being left to believe, as they were at present, that when there were higher positions to be disposed of existing officers, if they had served the Board with success over a period of years, would have, at any rate, priority of consideration. This was the general practice of other bodies, and obviously if it was not to be followed by the Board, the Board's officers would only get second consideration both inside their own service and outside, and would have practically no prospects of promotion. In such circumstances the Board could hardly hope to attract the best type of junior officer. In the present case there were practically no institutions comparable with Darenth, and the applicants attracted would be men who would not have had experience of that class of work. The committee mentioned that in the infectious and children's hospitals services no medical superintendent had been taken from outside the service for over 20 years. Only once in the last 20 years had an advertisement been issued in those services for a medical superintendent. If it should appear that no existing officer could be recommended for the vacant position the committee would have no hesitation in advising the issue of advertisements. The Board authorised the Asylums Committee to consider in the first instance the claims and qualifications of officers already in the service for the post of medical superintendent at Darenth.

THE PREVALENCE OF CANCER IN THE UNITED STATES.

THERE are differences of opinion as to whether cancer has increased to any great extent during the past 20 or 30 years in the United States. There are those who hold that such increase is only apparent, attributing the seeming prevalence of malignant disease to the greater skill in diagnosis of the modern practitioner and the far better kept records. Mr. Frederick L. Hoffmann, of the Prudential Insurance Company of America, read before the Clinical Congress of Surgeons of North America at Chicago a paper which may throw light on the matter. Mr. Hoffmann believes that the cancer death-rate in the United States is unquestionably on the increase among both sexes at all ages over 40. He has estimated the number of deaths from cancer in the United States for 1912 at about 71,000, of which 28,041 were deaths from cancer of the stomach and liver, 10,790 were of the female organs of generation, 9371 were of the peritoneum, intestines, and rectum, 6886 were of the breast, 2769 were of the buccal cavity, and 2627 were of the skin, while in addition thereto 10,507 deaths were due to cancer of other organs and parts. He takes the stand that it is absolutely incredible that the large increase in had complications, 5 septic, 5 capillary bronchitis, and 15 bronchopneumonia, with 6 deaths. In all there were 7 deaths in 35 cases, or a mortality of 20 per cent. This compares favourably with the statistics given by Comby—i.e., 69 per cent. in complicated cases. Dr. Galli explains the rationale of this treatment by calling attention to the hypoleucocytosis which occurs in the periods of invasion and eruption. The group of polynuclear neutrophiles is chiefly concerned in this leucopenia, and is reduced to a very small number, almost the whole of the white corpuscles being represented by lymphocytes. It may hence be inferred that the toxin of measles is negatively chemiotactic for the bone marrow, which according to Ehrlich is the focus of production of the polynuclear neutrophiles, and perhaps positively chemiotactic for the spleen and lymphatic glands, which according to Blumreich and Jacoby are the foci of production of lymphocytes. Now, since the polynuclear leucocytes are the defenders of our organism, their marked diminution in the second and third periods of measles is the cause of the diminished resistance, and explains how this special exanthem is more than any other susceptible of aggravation and of complications. In such circumstances electrargol represents the ideal and rational remedy, says an article in the *Gazzetta degli Ospedali e delle Cliniche*, since it stimulates those hæmopoietic organs (bone marrow) which the toxin of measles paralyses, inducing a defensive polynuclear leucocytosis, while it also destroys and renders harmless the toxins which jeopardise life by disturbing the functions of the viscera.

TRANSPLANTATION OF THE TESTICLE.

IT is rather surprising to learn from the paper by Dr. Victor D. Lespinasse in the *Journal of the American Medical Association* for Nov. 22nd that so long ago as 1849 experiments on testicular transplantation were successfully carried out by Berthold, who worked with roosters, transplanting the testicle into the peritoneal cavity. Other investigators have used other animals since, and a short time ago Hammond and Sutton, of Philadelphia, transplanted a whole human testicle into the scrotum of a patient who had but one sound one. In this case the grafted organ "took," but apparently underwent subsequent atrophy; and the functional result cannot, of course, be ascertained, since the recipient of the transplanted testicle already had one sound one. The case reported by Dr. Lespinasse falls within a different category altogether, both in respect of the nature of the operation and the indication for its performance. His patient was a man of 38 who had lost both testicles, one in an accident, the other —which had failed in its normal descent—in a hernia operation. His chief reason for desiring treatment was that he was sexually impotent. Dr. Lespinasse writes that a testicle from a normal man was easily obtained; he was surprised at the number available. The two patients were anæsthetised at the same time; the scrotum of the recipient was opened high up and a "bed" prepared as for the reception of an undescended testis. A second "bed" was made in the depths of the rectus abdominis muscle. The healthy organ was next removed and cut transversely into a series of slices about 1 millimetre thick. The central slice and the one next to it were taken out and set down in the midst of the rectus abdominis, another slice being placed in the scrotal "bed." Recovery was uneventful so far as the healing of the wounds was concerned; sexual desire and capacity for erection returned on the fourth day, and have continued for the past two years. At the discussion which followed Dr. Lespinasse's description of this remarkable case allusion was made to the successes achieved by Tuffier and another in analogous operations on the ovaries, but it seems that there is no other recorded example of such a proceeding in relation to the male.

THE TOXICITY OF BACTERIA.

IT has generally been supposed that pathogenic bacteria produce their evil effects by means of two classes of poisons—one the so-called exotoxins, analogous in some measure to the excretions or secretions of higher organisms, and the other the endotoxins, usually regarded as existing within the bodies of the bacteria and liberated only by their death. The latter on this view are somewhat analogous to the poisonous bodies laid up within the cells of some plants, products of the metabolism of the living cells, but distinct from the actual protoplasm. A novel and interesting hypothesis as to the nature of bacterial toxicity has recently been put forward by Dr. F. H. Thiele and Dr. D. Embleton,[1] based to some extent on Friedberger's work, according to which the toxins of bacteria are in reality cleavage products derived from their living proteid substances under the influence of the ferments present in the body of the host. But it is only at a certain stage in the process of disintegration that the cleavage bodies are toxic. From this it follows that, given the power of existing and multiplying in the body of a living animal, the injurious nature of a bacterium depends on the quantity and consequent vigour of action of the host's ferments. There must be just enough of these to hydrolyse sufficient bacterioprotein to cause toxic effects, but not enough to carry this process so far and so fast as to break up the toxins themselves before they can do harm. A bacterium may therefore be harmless to a particular animal host if, on the one hand, the latter has no ferments capable of digesting it or such a poor supply of these that the process is too slow to produce poisons in sufficient concentration; or, on the other hand, if the ferments are so plentiful and active as to prevent accumulation of toxic cleavage products. Again, a harmless bacterium can be rendered pathogenic if suitable ferments can be produced in the body of the host to effect the needful degree of digestion. In proof of this Dr. Thiele and Dr. Embleton have succeeded in rendering saprophytic organisms, such as bacillus phlei (the grass bacillus), the smegma bacillus, and others lethal for rabbits by sensitising the animals by a preliminary vaccination with the germ. It is interesting to note that the acid-fast organisms just mentioned produce under these conditions typical tubercles and caseation; they acted, in fact, just like tubercle bacilli, thus raising the question of a possible development of the tubercle bacillus from common saprophytic organisms. The most striking feature, however, of the views propounded by Dr. Thiele and Dr. Embleton is the harmony introduced between the phenomena of immunity and those of anaphylaxis, which have hitherto seemed almost contradictory. The anaphylactic state corresponds with the condition of an animal in which the correct amount of ferment is present to render an organism pathogenic, whereas an immune animal has either so much antibody that the cleavage products are destroyed—acquired immunity—or so little that no ill-effects are produced—some forms of natural immunity. For the present the hypothesis sketched above can only be regarded as tentative and awaiting confirmation or refutation, but it is certainly ingenious and worthy of attention.

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[1] THE LANCET, vol. i., 1913, pp. 234 and 332; Zeitschrift für Immunitätsforschung und Experimentelle Therapie, Nov. 12th, 1913, pp. 643, 656.

THE AUTOMATIC REPRODUCTION OF DOCUMENTS.

A GREAT part of the distinct advance that has been made in recent times in all branches of science is undoubtedly due to the preservation of records. Sometimes the data have been consciously selected for their known or expected bearing on some recognised problem. Occasionally they have been noted merely because of a recognition of the fact that the future realisation of a newly recognised factor in some problem may convert mere collections of facts into fertile fields of knowledge. One of the chief obstacles to the systematic collection of facts, whose immediate bearings on some problem are not yet perceived, has hitherto lain in the immense amount of clerical labour involved. The Bureau of Records in the Borough of Manhattan, New York, has recently taken a step in advance in this work by utilising photography wherever possible to perform this hitherto clerical labour.[1] Copies can thus be reproduced of such important records as permits for burial of people who die abroad and other documents containing often much illegible handwriting or curious signatures or impressions of seals. Records in foreign languages, necessitating extreme care in transcription and calling under the old methods for the services of some intelligent person acquainted with the language in question, are reproduced by photography with accuracy and fidelity and with minimum loss of time. The process is, of course, applicable to any documentary evidence, such as certificates of births, marriages, deaths, sickness, and what not. Indeed, it may have entirely unlooked-for extensions as soon as it becomes general. The work is performed in New York by exposing in a holding frame the document to be copied for from 5 to 12 seconds before a suitable camera containing a large roll of specially prepared paper, the required amount being unrolled, exposed, and passed into the developing tank, automatically cut, and thrown into the fixing bath, from which it emerges complete, except for a washing. The result is a positive print, without the intervention of a negative. By this process, it is stated, sheets may be copied at the rate of two a minute, the resulting copy being an exact reproduction free from any possibility of copyist's errors. The utility of such a process calls for no comment.

DISLOCATION OF THE PROXIMAL PHALANX OF THE GREAT TOE.

IN the *Journal of the American Medical Association* of Dec. 6th, 1913, Dr. P. G. Skillern has reported a case of a very rare injury—dislocation of the proximal phalanx of the great toe. A man, aged 56 years, went to hospital with the history of having been kicked by a horse nine weeks previously and of having been treated at another hospital for an injury to the left knee. He complained of pain in the great toe. Examination showed fixation of the toe in extreme extension and crepitation at the metatarso-phalangeal joint. A skiagram revealed displacement of the proximal phalanx of the hallux on to the dorsum of the head of the metatarsal bone. The sesamoid bones were displaced from the plantar aspect to each side of the joint. Under nitrous oxide an attempt at reduction was made with Levy's apparatus, but in consequence of laceration of the skin had to be abandoned. The method proposed by Dr. Crosby, of New Hampshire, in 1826 for reducing dislocations of the thumb, which has been commended by the elder Gross, was then adopted with success. The toe was *raised perpendicularly and strong pressure* was applied against the base of the phalanx, so as to push it from behind forward and from above downward. Reduction was maintained by strapping the hallux down on a plantar splint. Evidently the injury was overlooked at the other hospital. The deformity must have been greatly increased during the intervening nine weeks by contraction of the extensor hallucis proprius. The injury is so rare that Gross stated in his "System of Surgery" that he had seen but two cases. Of 22 cases of luxation of the proximal phalanges of the toes Malgaigne found that 19 were of the great toe. In Holmes's "*System of Surgery*" *the analogy between this dislocation* and that of the corresponding phalanx of the thumb is pointed out as well as the similar difficulty in reduction. In 4 out of 10 cases referred to by Malgaigne reduction could not be accomplished. In accounting for this difficulty the statement of Gross is not borne out by the present case. He said: "It depends probably on the manner in which the adductor muscle and the sesamoid bones are dragged by the displaced phalanx backward over the extremity of the metatarsal." Here the skiagrams showed clearly the position of the sesamoid bones and that they in no way interfered with reduction.

AT the meeting of the Section of Medicine of the Royal Society of Medicine, to be held on Tuesday, Jan. 27th, there will be a discussion on Vaccines from the Standpoint of the Physician. Dr. T. J. Horder will open the discussion, and will be followed by Sir John McFadyean and Dr. Charlton Briscoe. The discussion will probably be continued on the following Tuesday, Feb. 3rd. Members wishing to take part in the debate should communicate with Dr. John Fawcett, the honorary secretary of the section, at the society's house, 1, Wimpole-street, London, W.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—The course of lectures on the Neuroses and Psychoses of Children, which was being delivered by Dr. Francis Warner, consulting physician to the London Hospital, during the winter session of 1913, will be continued during January, February, and March, 1914. These lectures will be delivered every Monday at 4.15 P.M. in the clinical theatre of the hospital, and are intended for students as well as for post-graduates. The subjects remaining to be dealt with are the Study of Modes of Brain Action, Mental Aptitudes, Faults, and Status of the Child; Brain Action corresponding to Motor Signs; Types of Childhood, and Elements of Brain Training; Systematic Training and Mental Hygiene. Further information can be obtained from the Professor William Wright, dean of the college.

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[1] Weekly Bulletin of the Department of Health of the City of New York, Nov. 29th, 1913, new series, vol. ii., No. 48.

TOILET SOAPS FROM AN ECONOMIC AND HYGIENIC POINT OF VIEW.

Introductory.

THE following article contains certain instructive details, brought out in a number of analyses that we have made, in regard to the nature and quality of the numerous toilet soaps now at the disposal of the public. We have decided to treat the question on general grounds, avoiding for that reason any invidious reference to the particular goods of a particular maker. It is obvious that the soap-maker knows more of the details of soap-making than we do, but we may be allowed to approach the subject from the point of view of the consumer, and, therefore, to deal with soap as it reaches the public, devoting special attention to economic and hygienic considerations. Soap-makers doubtless work to their own idea of standards and price, but it is well that they should hear an independent expression of opinion upon these points.

General Considerations.

The cleansing power of soap is universally appreciated. It has been used as a detergent from the earliest ages. To-day its manufacture has reached a pitch of refinement upon which both consumer and maker may be congratulated. The quality of soap is of considerable importance, having regard to the frequency of its use in domestic economy, for it is employed with a regularity and orthodoxy comparable with the ritual of meal-time. Soap and food, in fact, rival one another as matters of resource in the *régime* of the domestic day. Soap occupies this position owing to its property of removing greasy materials which amongst other things are responsible for soiling the skin or clothing. Its essential chemical quality is, in fact, its solvent effect upon fatty substances. If dirt were not invariably accompanied by grease soap would not be required to the extent it is, for greaseless dirt would for the most part be detached by the application of water and mechanical movement alone. A prompt method of removing grease would be by the application of an alkali, but this is inadmissible since alkali has an irritating, because solvent, action upon the skin. The grease-dissolving effect of an alkali, however, can be obtained by introducing it in the form of a comparatively unstable compound of fat and alkali, and this is what soap amounts to. Soap on hydrolysis or solution in water dissociates into free alkali and an acid soap. The acid soap gives rise to a lather with water and the alkali is available for extracting fatty matters.

There is thus obtained both a saponifying and emulsifying action on the substance to which soiling is due. The use of soaps in preference to free alkali is justified by the fact that soap prevents the presence of an excessive proportion of free alkali. The proportion of alkali liberated from soap is small with a small quantity of water, and large with a large quantity. The addition of a large quantity of water does not, therefore, greatly affect the concentration (the amount of free alkali in a given volume of water), since, although much water produces much free alkali, it simultaneously dilutes it. In a word, the advantage of soap for cleansing purposes is that by its use there is an automatic regulation of the proportion of free alkali, which is kept constantly small, and hence the wash water is free from injurious properties. This is the secret of soap's power to remove fatty matters which otherwise are hard to detach. Grease is the anchor of dirt, and soap weighs the anchor. Soap is nowhere provided by nature; it is man's creation, and is, in fact, a chemical. The fatty acid is combined in a definite relation with the alkali, although different fats have different combining values, just as different inorganic acids have different combining values in their union with metals. Soap is thus a salt, and the business of the soap-maker is to effect a satisfactory combination of fatty acid and alkali. The soap produced should possess qualities in accordance with the special purpose for which it is intended to be applied. In the present inquiry we deal, however, only with those soaps which are sold for toilet use, and it is obvious that soap of the highest purity and quality is demanded in this case.

According to an examination of a score or so of toilet or fancy soaps recently purchased upon the open market, it would appear that, generally speaking, the makers contrive to furnish a product of good standard quality. On the whole, the toilet soaps supplied show also a close approximation to a standard of composition. That is to say, the proportion of actual soap present is fairly constant, and the amounts and relations of fat and alkali are much the same in the majority of the samples examined. There are exceptions with which we shall presently deal.

The Prices of Toilet Soaps.

There is, however, as will be seen from the table accompanying, a very wide range in regard to the prices at which toilet soaps are sold. In column 1 of this table the prices of the toilet soaps which were procured for examination are given. In the absence of foreign ingredients the figures shown represent the cost of actual dry soap present in the tablet or bar, and are strictly comparative. They represent, in fact, the actual price paid for the cleansing agent. Soap's essential function is, of course, to cleanse, and in reality it is purchased solely for this property, and yet the prices paid for soap to obtain this advantage vary as much as from 6¼*d.* to 8*s.* 4*d.* per lb. The explanation of this remarkable difference in the price of a substance which serves one and the same purpose is that there are equally wide differences in quality, depending upon the choice of materials in the manufacture. Special fats may, for example, be selected, or a fancy constituent added in the shape of scent, glycerine, or oatmeal. It is difficult to concede that these considerations can advance the price of the material basis to the large extent shown.

The transparent soap, for example No. 18 in the table, which is free from sugar and glycerine and probably, therefore, made with the aid of alcohol, but unscented, is sold at nearly half the price of No. 24, which is also a transparent soap showing a similar composition but with the difference that it is scented. The analyses of these soaps do not indicate any important difference of quality, but the price of the former is 1*s.* 6*d.* per lb. and of the latter 2*s.* 11½*d.* per lb. This suggests that the price of the soap is much higher merely because it contains scent, the proportion of which is very small. Scent seems to be the chief ingredient relied upon to enhance enormously the cost of soap, for it will be noticed that as a rule the scented soaps are the most costly.

Thus, for an eau-de-Cologne soap 1*s.* 9¼*d.* is charged per lb., for an "otto of roses" soap the price is 6*s.* 6*d.* per lb., for a ladies' face soap, also scented, 8*s.* 4*d.* per lb., whereas perfectly good soaps for ordinary toilet purposes can be obtained at 1*s.* per lb. or under. Viewed as mere cleansing agents these costly soaps are nothing like worth the money charged for them, neither do they exhibit qualities which render them particularly more suitable for personal use as cleansing agents than the well-made soaps costing a shilling or less per pound. There is a further point in regard to scent. It is maintained by some authorities that certain essential oils (the bases of scent) are not suitable for tender skins, as these oils are known to produce a skin-reddening action. Amongst essential oils the irritating effects of mustard oil, turpentine, and thymol are well known.

Analyses of Toilet Soaps.

Reference number of soap.	1 Price per lb of dry soap	2 Moisture.	3 Total ash in moist soap	4 Ash of dried soap	5 Alkalinity of ash as Na_2CO_3	6 Alkalinity of ash as Na_2O	7 Percentage of total alkali (Na_2O) liberated on hydrolysis in 15 min. warm water (110° F.).	8 Sugar.	9 Glycerine.	10 Melting point of fatty acids	11 Solidifying point of fatty acids	12 Neutralisation value of fatty acids.	13 Valenta figure	14 Free alkali.	Description.
1	0*s.* 6¼*d*	20·60	13·90	17·50	16·91	9·95	40·00	—	—	41	39	197	24	None	A yellow opaque tablet.
2	0*s.* 8¼*d*	23·60	12·40	16·20	15·93	9·39	20·00	21·40	—	25	23	223	14	Distinct.	Transparent sugar soap.
3	0*s.* 8½*d*	8·10	17·40	18·90	17·17	10·10	30·00	2·20	5·04	35	32	208	22	None	Glycerine and sugar soap.
4	0*s.* 9*d.*	5·00	17·50	18·40	18·02	10·60	39·70	—	—	38	35	192	22	,,	Brown windsor
5	0*s.* 9*d.*	19·00	14·70	18·10	17·91	10·54	38·20	—	—	42	39	213	28	,,	Opaque white tablet floating in water.
6	0*s.* 9½*d*	7·60	17·40	18·80	18·80	11·06	33·30	—	—	39	36	201	22	,,	Brown windsor
7	0*s.* 10*d*	6·10	17·90	19·00	18·37	11·16	25·00	—	—	36	34	192	23	,,	Brown windsor.
8	0*s.* 10*d*	5·60	17·90	18·90	18·37	10·81	31·80	—	—	38	35	204	26	,,	Described as "honey" soap
9	0*s.* 10½*d*	10·60	21·00	23·50	17·96	10·57	31·30	—	—	33	29	191	18	Distinct	Brown windsor.
10	0*s.* 11¼*d*	11·60	17·40	18·70	17·91	10·54	39·60	—	—	36	34	187	21	,,	Described as "honey" soap
11	0*s.* 11¼*d*	5·00	18·50	19·47	18·85	11·09	35·10	—	—	33	36	214	25	Traces.	Described as "buttermilk" soap.
12	1*s.* 0*d.*	6·10	17·40	18·50	17·64	10·33	29·00	—	—	35	32	195	20	None.	Brown windsor
13	1*s* 0¼*d*	5·60	19·00	20·10	17·85	10·50	32·80	—	—	41	39	208	27	,,	Pink scented soap.
14	1*s* 0¼*d*	7·10	17·00	18·40	18·44	10·85	33·60	—	—	43	41	205	28	,,	Described as "buttermilk" soap.
15	1*s* 0½*d*	6·60	17·40	18·60	17·17	10·10	32·80	—	—	40	35	196	28	,,	Scented green tablet.
16	1*s.* 4½*d*	6·60	18·20	19·40	16·33	9·61	40·00	—	—	33	35	210	25	,,	Described as "cold cream and oatmeal"
17	1*s* 5*d*	20·60	12·40	15·60	14·58	8·58	15·80	5·76	19·30	30	26	203	18	Distinct	Transparent glycerine soap.
18	1*s.* 6*d*	8·20	14·30	15·50	15·1	8·92	37·70	—	—	37	36	198	23	None	Unscented transparent tablet.
19	1*s.* 9¼*d*	7·60	18·40	19·90	20·23	11·90	38·20	—	—	33	29	217	18	,,	"Eau de Cologne" soap
20	1*s* 10½*d*	8·10	17·60	19·15	17·76	10·45	41·80	—	—	39	37	216	25	,,	Strongly scented opaque soap.
21	1*s* 11*d*	4·60	17·70	18·50	18·17	10·69	33·30	—	—	33	35	204	20	Traces	Olive green tablet
22	2*s.* 1¼*d*	6·50	16·00	17·10	15·81	9·30	26·00	—	—	41	39	190	21	None	Described as "superfatted"
23	2*s.* 9*d*	3·60	17·70	18·30	17·47	10·28	35·80	—	—	38	36	193	22	,,	Recommended for baby use
24	2*s.* 11½*d*	7·10	13·90	14·90	15·58	9·17	32·60	—	—	37	35	208	23	,,	Scented transparent tablet.
25	6*s* 6*d*	4·80	19·40	20·30	17·69	10·41	31·20	—	—	37	32	211	25	,,	Highly scented pink tablet.
26	8*s* 4*d*	3·80	17·00	17·60	17·49	10·29	28·00	—	—	45	42	217	29	,,	Described as a "face soap"

Water in Soap.

The proportion of moisture in toilet soaps shows considerable variation, as will be seen from column 2 in the table. As a rule, moisture is excessive, as might be expected, in the cheaper kinds of toilet soap. The highest amount found was in a cheap soap, a transparent bar—viz., 23·60 per cent., and the lowest 3·60 per cent. in an expensive soap. The majority of the soaps examined showed a percentage of water of from 4 to 8. It is of interest to note that soaps containing an excessive amount of water sometimes contained glycerine or sugar or both. (Examples occur in Nos. 2 and 17.)

The Quantity of Fixed Alkali in Soap.

The amount of fixed alkali in toilet soap is a fairly constant quantity, as will be seen from column 6, which gives the alkalinity of the ash calculated as sodium oxide in the dry soap. Any startling variations in these figures would disclose the presence of inert mineral substances. In the absence of such additions the figures in columns 4 and 5 should show a fair agreement. When pure soap is incinerated it leaves an ash which should be pure carbonate of soda. If the weight of the ash agrees with the amount of alkali found in it and calculated as carbonate of soda, it is evident that the soap must be free from foreign mineral additions. The results show, on the whole, that toilet soaps are free from extraneous mineral matters. Exceptions occur in soaps Nos. 9, 13, 16, and 25, but the amounts are not high. They serve to show, however, that the practice of adding mineral matter to soap which is not essential for its formation is not obsolete, even in the matter of toilet soaps.

Sugar and Glycerine in Soap.

Sugar must be regarded as a foreign constituent of soap. Glycerine does not come quite within this category, since it is a product of the saponification of fats, though, as a rule, it is recovered in soapmaking as a separate substance destined for an entirely different purpose from soap itself. Glycerine is generally a declared constituent of soap when it is present in important quantity. It is commonly found in transparent or semi-transparent soaps, its presence contributing transparency.

Soaps Nos. 3 and 17 in the table are both called glycerine soaps, and the amounts of glycerine recorded are respectively 5·04 per cent. and 19·30 per cent. In addition to glycerine, both soaps contained sugar, the former 2·26 per cent. and the latter 5·76 per cent., which is probably used to aid the glycerine in producing transparency. The glycerine produced in soapmaking tends to produce a translucent soap, especially if castor oil is used as the fatty substance, but a greater degree of transparency is obtained by the addition of extra glycerine. To the presence of glycerine in soap there can be no objection, as apparently glycerine is not offensive to a sensitive skin. One drawback to its use, however, is that it is very hygroscopic, so that it is apt to make the soap "sweat" or get wet on its surface. Sugar replaces glycerine for the purpose of producing a transparent soap, with the advantage that it does not "sweat," but unfortunately sugar has a decidedly irritating action upon sensitive skins, and the sugar soaps should be avoided by those who possess easily irritated skins. The use of sugar in toilet soaps is, however, not very general according to the results of our inquiries. Neither sugar nor glycerine, it should be pointed out, is essential to the production of transparent soaps. They, and especially sugar, represent cheap methods of obtaining that end. By using alcohol to dissolve the product of saponification, undoubtedly a very pure soap is prepared, a soap which more nearly approaches than anything else to the composition of a theoretically pure soap. Whether the theoretical soap is best for all purposes under all conditions of usage is a question which may well be considered. We are content to point out that transparent soaps of excellent quality are prepared which contain neither glycerine nor sugar, but which are prepared by an alcohol process, the only disadvantage of which is to add to cost of production, and therefore to its price to the consumer. For toilet purposes we are inclined to think that the unscented transparent soap prepared by the alcohol process is one of the best soaps adapted for personal use, including the case of a sensitive skin.

Soap and Water.

However pure a toilet soap may be it must always be remembered that in contact with water it hydrolyses and furnishes a solution containing free alkali as explained in the introductory portions of this article. The skins, therefore, that are sensitive to weak alkaline solutions will be sensitive to the purest soap solutions. But they will be spared the effect of an excess of alkali when a well-made soap is used. It is probable that all skins are more or less susceptible to the action of alkali, and this is the chief reason why a well-balanced soap for toilet purposes is desirable. The proportion of alkali set free on dissolution in water varies with different soaps, but not to a very large extent. In column 7 in the table will be found a series of figures giving the percentage of total alkali liberated on hydrolysis in water as in ordinary washing at 110° F. (comfortably hot) for 15 minutes with various soaps. The highest obtained (No. 20) was 41·80 per cent., and the lowest (No. 17) 15·80 per cent., but most of the soaps gave a number approximating to from 33 to 40 per cent.

It is interesting to observe that the glycerine and sugared soaps in each case yielded a relatively small amount of free alkali on hydrolysis. Apparently glycerine or sugar interferes with the rate of dissolution of soap in water. In some cases this may be an advantage, but in others a disadvantage. The soap which hydrolyses freely is likely to be a ready cleanser, but, on the other hand, the soap that hydrolyses tardily may suit the requirements of a delicate skin. According to this a glycerine soap, for example, may prove to be very suitable for the person with a susceptible skin, but such a soap is not calculated to produce the ready and effective cleansing which a soap free from glycerine or sugar would do.

The Fats in Soap.

Pure neutral fats, whatever their origin, can hardly be held accountable by themselves for any prejudicial action upon the skin, but inasmuch as different fats require varying amounts of alkali in order to convert them into neutral soaps the question of what fat is present in soap is of some importance. Cocoa-nut oil or palm-nut oil, for example, requires much more alkali for saponification than does olive oil, tallow, castor or rape oil, and so a soap made with cocoa-nut oil or palm-nut oil would yield more alkali on hydrolysis in water than a soap made with olive oil, tallow, castor, or rape oil.

For the most part modern toilet soaps are made with nut oils, palm-nut oil, and cocoa-nut oil, whereas early in the history of soap-making tallow and olive oil were employed. Modern soaps therefore yield more alkali on hydrolysis than the old soaps. By some authorities this is regarded as a retrograde step. The modern soap-maker tells us, on the other hand, that cocoa-nut or palm-kernel oils are not used merely for cheapness, or for producing a firm soap, but because of their wonderful efficacy as soap-making material, and besides they are sweet and entirely of vegetable origin and do not easily become rancid. The soaps produced with these oils prove also to be rapid and economical washers. A glance down column 12 of the table will show that the neutralisation values of the fatty acids liberated from the toilet soaps which we procured show certain variations. The lowest figure is 187 and the highest 223. These figures indicate the quantity of potash (KOH) required to neutralise 1000 parts of fatty acid. The majority of the soaps gave numbers well over 200, which points to the use of palm-kernel oils or cocoa-nut oil or a mixture. Some of the soaps, however, gave figures well below 200, and these included some relatively expensive soaps.

There is a great difference in the prices of oils used in soap-making, which must govern to some extent the price of the finished material, and we are told that the recent all-round advance in the price of soap is attributable to the increasing demand for cocoa-nut and palm-kernel oils for edible purposes, and as a matter of fact for the manufacture of butter substitutes. Further observations are presented in the table in regard to other physical constants given by the fatty acids obtained from toilet soaps. The melting points and solidifying points, for example, were observed, and a figure is given, called the Valenta figure, which records the temperature at which a mixture of equal volumes of acetic acid and fatty acid results in a uniformly clear and bright solution. It will be seen that the melting and solidifying points (see Columns 10 and 11) do not show any sharp distinction when comparing cheap and expensive soaps, but the majority of the figures given are well above that of olive oil, which is 26. Nor do the Valenta figures (see Column 13) help materially to differentiate the cheap from the expensive soaps, but it may be remarked that the majority of them approach the figures given by palm and coconut oils. Altogether the physical constants tend to show the use of the same fats throughout the series, which includes both cheap and expensive soaps. It should be pointed out, however, that no safe interpretation can be placed upon these results since the soap maker invariably uses a mixture of fats.

Free Alkali in Toilet Soaps.

Column 14 records the presence or absence of free alkali in toilet soaps. It will be seen that in four cases which include soaps costing under a shilling per pound there was free alkali present, and in two cases of soaps costing over that amount there was evidence also of free alkali. When sugar was present in the soap free alkali was found in two cases out of three. The presence of free alkali in toilet soap is undesirable, but, on the whole, the manufacture of soap is now conducted on such scientific and carefully regulated lines that the output of quite neutral toilet soaps is practically the rule, according to our observations. There are superfatted soaps on the market, but except perhaps that they are generally made with extra care they possess no advantage, at least the suggestion that a small excess of fat gives the soap emollient properties is not accepted by all authorities. It is safe to say, at all events, that a slight excess of fat is to be preferred to the presence of free alkali.

Fancy Names.

The use of fancy names, such as buttermilk, cream, cucumber, honey, and others, where none of these things is present in a soap, is open to criticism. There can be little doubt that a section of the public is guided in the purchase of a soap by its name, the impression being that the name has a definite meaning, implying some superior quality of soap or the presence of a soothing material. Such terms as buttermilk, honey, cream, and cucumber are applied to soaps which are just as plain in their composition as brown windsor. They appear at any rate to be innocent of the presence of the various materials hinted at, and so the description has no literal foundation.

Conclusions.

To summarize, the results show that the toilet soaps on the market as a whole evidence a degree of purity and adaptability for toilet purposes which redound to the credit of the soap maker. It is obvious that modern soap making is, generally speaking, founded on scientific lines and run on a system of control which turns out a standard product equal to ascertained requirements. Gross adulteration in regard to toilet soaps does not appear to exist. The only foreign ingredient we found present in important quantity, and to which exception may be taken on account of its irritant properties, is sugar. The presence of free alkali in toilet soap is a comparatively rare occurrence, but it would appear that in some instances the degree of purity attained in toilet soaps induces makers to demand a very extravagant price, and apparently high grade scents are resorted to as a kind of justification for this demand. It is doubtful whether toilet soap is rendered more acceptable to the skin by the scenting process. Essentially, soap is required for cleansing purposes, and so long as toilet soaps fulfil this rôle without doing harm to the skin they perform all that is necessary. We found this function discharged by toilet soaps sold at moderate prices. Even the purest soaps may give rise to irritation on certain delicately constituted skins. And it must be remembered that in any case the use of soap connotes the use of a weak but regulated quantity of alkali, and so its excessive employment should be avoided, when the work of cleansing has been done it is well to remove any excess of soap with all reasonable speed.

MEDICINE AND THE LAW.

Eastes v. Russ.

A FULL account of the issues in this action tried by Mr. Justice Sargant will be found in THE LANCET of June 7th, 1913, p. 1618. The plaintiff having appealed, the Court of Appeal recently affirmed in effect the judgment delivered in the court below, although differing from the reasoning by which Mr. Justice Sargant arrived at his conclusions. His lordship, it will be found, held that a restrictive condition preventing the defendant from engaging in laboratory work within ten miles from the place where he was employed by the plaintiff was co-extensive only with the period of his employment, and also that it was ambiguously expressed. He was not prepared to find that the condition, if for life, was in restraint of trade and more far-reaching than was necessary to protect the plaintiff. In the Court of Appeal the Master of the Rolls and Lord Justice Phillimore dissented from the interpretation of the condition as being co-extensive with the term of employment, but held that the restraint sought to be imposed went beyond what was reasonably necessary for the plaintiff's protection, and that accordingly the appeal must fail. Lord Justice Swinfen Eady dissented, being of opinion that the appeal should be allowed.

Bolliger v. Bridger.

After a long trial before Mr. Justice Lawrence and a special jury, a verdict for the defendant was returned in an action for assault brought by a girl, 18 years of age, named Freeda Bolliger, who sued through her father as her next friend. The plaintiff had consulted the defendant, Mr. J. D. Bridger, on three occasions in August last, and she alleged that his conduct to her was not that which the treatment of her case required, and that it constituted an assault. In consequence of her daughter's statements the girl's mother attacked Mr. Bridger with a dog whip, and the summons which he took out against her was dismissed. This was followed by a letter from the plaintiff's solicitors to the defendant asking him to pay compensation, which he declined to do, intimating that he should welcome inquiry into the whole of the facts of the case. After the evidence for both parties had been fully gone into, his lordship, in summing up, told the jury that anyone going to a medical man for treatment gave an implied assent to anything reasonably necessary for that treatment. The evidence showed that there had been either a diabolical act by the defendant or a fantastic dream on the part of the girl. There was no evidence to show that she was hysterical but, on the other hand, there was a medical man working very hard for a meagre remuneration, as to whose high character his friends, teachers who had instructed him, and eminent members of his profession to whom he had been an assistant, were agreed. It was a matter of human experience that women occasionally made unfounded charges against men, and a commonplace of medical prudence to secure, if possible, the presence of a third person in treating them for the protection not of the patient but of the medical attendant. It was, he suggested, a question not of lying on the part of women but of hallucination and of a perverted conception of what had happened to them. The jury found a verdict for Mr. Bridger. It is a commonplace of forensic practice that charges such as that levelled against him are among the easiest of accusations to bring and the hardest to repel, and that the nature of their professional duties renders medical practitioners peculiarly, and apparently unavoidably, liable to them. Mr. Bridger is to be congratulated warmly upon the satisfactory conclusion of an incident in his professional career of a very painful character.

REPORT ON SANITARY MEASURES IN INDIA IN 1911-12.[1]

European army.—It is very satisfactory to be able to note that the improvement in the health of the European troops serving in India, which has progressed steadily during the past few years, has been maintained. The average daily strength of the European army, including officers, during the year under review was 72,371. The chief causes of mortality were hepatic abscess, enteric fever, heat-stroke, and cholera. It is worthy of note that for the first time on record the death-rate from enteric fever is lower than that of hepatic abscess. Only 24 deaths were recorded from enteric as compared with 46 in 1910 and 113 in 1909. From all causes 515 men were invalided, as compared with 563 in 1910 and 649 in 1909. Diseases of the ear were the chief cause of loss in 1911, the number so invalided being 62. Tubercle of the lungs took second place, 55 being invalided, as compared with 71 the previous year. Nervous diseases caused 54 invalidings and mental diseases 40. As regards the prevalence of important diseases in plain stations where the average annual strength was 500 or more, the incidence of enteric fever was greatest at the cantonments of Bareilly, Lucknow, Belgaum, Fyzabad, and Nowshera; of malaria at Bellary, Mhow, Muttra, Peshawar, and Jubbulpore; of dysentery at Poona, Bangalore, Fyzabad, Fort William, and Lucknow; and of venereal diseases at Colaba, Bellary, Bangalore, Fyzabad, and Madras, including St. Thomas's Mount Cholera caused 38 admissions and 21 deaths; of these, 26 cases with 12 deaths occurred amongst the 1st Royal Scots at Benares, the source of infection being traced to the butter-supply from an infected dairy in the city where the disease was prevalent. The epidemic was confined to British troops and subsided in three days when precautions had been taken to prevent further infection. Seven cases with 4 deaths occurred amongst the 4th King's Royal Rifles when marching through Dehra Dun from Chakrata. Only 1 case of small-pox occurred during the year. The admissions to hospital for malaria numbered 6527, as compared with 9572 in 1910. There were 6 deaths and 7 invalidings to England. The number of cases of cases of enteric fever is the lowest on record. Throughout the whole of India only 170 cases are returned with 22 deaths; of these, 106 were amongst uninoculated men and 64 amongst the non-inoculated, but as the inoculated amounted to 85 per cent. of the whole the number of the inoculated exposed to infection is more than five times greater than the number of non-inoculated men. Excellent work has been carried out at the enteric fever convalescent depôts at Naini Tal and Wellington, many carrier cases being detected and segregated. Treatment of carriers by means of an autogenous bacillary emulsion has been definitely found to be inoperative.

Indian army.—The health of the Indian troops throughout the year has been very good. Including those on duty in China and in other stations outside India the average strength was 131,213 as compared with 131,274 in the previous year. It is satisfactory to note that the admission, constantly sick, death, and invaliding rates were lower than in 1910. The chief causes of sickness were malaria, pyrexia of uncertain origin, respiratory diseases, and dysentery; the chief causes of death were pneumonia, enteric fever, malaria, and respiratory diseases. The number of invalidings was 581 as compared with 684 in 1910, the chief causes of this source of loss being tubercle of the lungs, injuries, anæmia, and debility and venereal diseases. The highest death-rate in any of the larger stations was 14·18 per 1000 at Dehra Dun, the chief cause of mortality being enteric fever. The number of cases of cholera in the Indian army was 16 and the number of deaths was 14. No individual regiment had more than two cases. Small-pox caused 36 admissions with no death. Malaria gave 13,778 admissions and 55 deaths. Enteric fever caused 302 admissions with 55 deaths. Anti-typhoid inoculation is being introduced in many regiments. There was a marked increase in the incidence of plague. The total number of admissions during the year was 95 with 35 deaths, as compared with 31 cases with 22 deaths in 1910. Tubercle of the lung gave 56 admissions amongst Gurkhas with 11 deaths. Dysentery caused 2971 admissions with 16 deaths, and venereal diseases 1950 admissions with 4 deaths.

General population.—This section of the report deals with the several provinces of British India. The total number of births and deaths registered were 9,209,703 and 7,639,544 respectively. The deaths from the chief diseases were as follows: Cholera, 354,005; small-pox, 58,535; plague, 733,582; fever, 4,207,356; dysentery and diarrhœa, 253,636; respiratory diseases, 223,822; and "all other causes," 1,710,641. Taking British India as a whole, the number of deaths under each of the headings tabulated, except under small-pox and plague, were fewer in 1911 than in the preceding year. All the provinces except Bengal, Eastern Bengal and Assam, and the Central Provinces, contributed towards the increase under small-pox. The increase in the number of deaths from plague was caused principally by epidemics in Bengal, the United Provinces of Agra and Oudh, the Punjab, and Bombay. The cholera mortality of India was reduced from that of 1910 by nearly 18 per cent., and the number of deaths from "fever" shows a decline when compared with the preceding two years. As regards the Red Sea pilgrim traffic, it is noted that 18,014 pilgrims left the Port of Bombay for Mecca *viâ* Jeddah; 8278 of these were vaccinated before they left Bombay and many of the remainder had been vaccinated before they left their homes. No case of either plague or small-pox occurred on the 23 ships carrying them, but on the outward voyage 106 deaths occurred among the pilgrims, the cases being attributed to fever, old age, debility, &c.

The jails of India.—The mean daily number of prisoners in India, Burma, and the Andamans during 1911 was 109,099—1356 less than in 1909. The rates of mortality from all causes fell to 19·09 per 1000 from 21·62 in 1910. The diseases to which the greatest amount of sickness were due were: malaria (admission rate 113 8 per 1000), dysentery (56·6), diarrhœa (38·6), and respiratory diseases (28·3); while the principal causes of death were tubercle of lungs (3·65), dysentery (2 91), and pneumonia (2·37). Excluding tubercle of the lungs there has been a tendency towards lower death-rates from all other causes as compared with 1910. An epidemic of scurvy and pyorrhœa alveolaris occurred at Sylhet, which was responsible for 35 deaths as compared with 18 in the previous year.

Vaccination.—During the year 1911–1912 there were performed in British India a total of 9,684,249 vaccination operations, there being an increase in every province except Coorg, the average cost of each successful case being approximately threepence. In the Assam report it is explained that the failure of the lymph was due to one or both of two causes—first, a decrease in the potency of the lymph strain; and second, to exposure to heat during the interval between issue and use. To remedy the first, endeavour was made to exalt the potency of the lymph by passage of the strain through a rabbit before being re-inoculated on calves. As to the second, the lymph was packed in flasks made on the "Thermos" principle and sent to the provincial laboratory at Dacca, where it was packed in ice and sent out to vaccinators by post in weekly supplies. The result of the experiment showed that if suitable measures are employed to ensure the potency of the lymph by careful selection of vesicles and passage through an alternative vaccinifer no special arrangements of packing, despatch, and distribution are necessary to prevent October and November failures. In the United Provinces of Agra and Oudh it is reported that there was a decrease in the issue of lymph in glass capillary tubes and an increase of the supply in bulk. This was due to the introduction of the method of supplying lymph in metal collapsible tubes which are cheaper and reduce labour. Arm-to-arm vaccination has now been replaced by vaccination with calf lymph in 22 districts, and during the ensuing season it is proposed to extend the supply to 11 additional districts, bringing the total to 33 of the 48 districts of the United Provinces. In the North-west Frontier Province the attitude of the people towards vaccination is not one of hostility, but there is the usual amount of apathy, laziness, and of disinclination to be annoyed. The principle involved and protection conferred are well understood, and it is always noted that if small-pox is looming on the horizon the vaccination returns go up considerably. It is considered inadvisable to attempt to enforce the Vaccination Act in the province; the steady increase in the work is regarded as proof that the people are beginning to appreciate the benefits of the proceeding.

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[1] East India (Sanitary Measures), vol. xlv., presented to both Houses of Parliament by Command of His Majesty, 1913. London: Wyman and Sons. Price 11*d.*

Medical institutions.—This section of the report is contributed by the Director-General of the Indian Medical Service. The State-public, local fund, and private-aided hospitals and dispensaries in British India now number 2707, an increase by 37 on the figure for 1910, and the demand for more is felt everywhere. The system of supplying treatment to the population in areas where no dispensaries yet exist, by means of an itinerating staff, has been extended in the United Provinces of Agra and Oudh and in the Punjab, and has been attended with much success. Expenditure rose from £783,123 in 1910 to £863,168 in 1911—an increase of 10 per cent.; but Indian subscriptions remained practically stationary, amounting to only £47,252, or a little over 5 per cent. of the whole. The population generally shows little desire to share in the burden of providing the institutions, though it makes use of them in ever-increasing numbers. During the year under review the total number of in-patients treated were 460,671 and out-patients 27,595,176, while the total number of operations performed was 1,139,060. In Calcutta it is noted that the new (Rogers) treatment for cholera was most successful, the recoveries varying from 60·77 per cent. to 70·59 per cent. In the United Provinces of Agra and Oudh the institution of travelling dispensaries has been very successful, and more than accounted for the decrease in attendance elsewhere, as they dealt with over 300,000 patients not included in the official totals.

Medical colleges and schools.—There are four colleges which afford the course for university degrees and also train military assistant surgeons. During the year the students numbered 1553 civil and private male, 93 female, and 204 military students. There are 14 schools which train civil, military, and private pupils for the passing-out diploma. The students numbered 1865 male, civil and private, 287 military, and 135 females. The X ray institute at Debra Dun continues to carry out excellent work. Two classes of instruction were held during the year. The number of post- [illegible] these included officers [illegible] ssistant surgeons, and [illegible] of new apparatus employed in electro-therapy has been received by the institute during the year, including apparatus employed in ionic medication. No case of X ray traumatism occurred to any of the staff, students, or patients of the institute.

Sanitary works.—In the past, owing generally to funds being limited, progress in respect of sanitary works has necessarily been slow. Interest in sanitation has, however, been growing, and a distinct advance has now been possible in consequence of the large and special grants made to the provinces by the Government of India. In Bengal a steady improvement is recorded in the working of the septic tank installations. A new type of distributor has been designed which has largely solved the question of distribution over the filter beds. It is claimed that the septic tank latrine installations are now practically perfect in design. The chlorinating of all the effluent is now stated to be extremely we[illegible] and it is seldom that a mild effluent is found that is practically sterile. In the United Provinces of Agra and Oudh good progress has been made in drainage works and other forms of town improvement in the larger municipalities. The waterworks, with the exception of those at Allahabad, generally gave good results. In the Punjab, it is noted that sewerage on a large scale has commenced and that the waterworks extension is in progress. In the Central Provinces a considerable degree of improvement is reported in municipal towns, but it is said much remains to be done. Although poor, as most of the municipalities are, the provincial Sanitary Commissioner remarks that this is not the cause of sanitation being gravely defective—it is because responsible persons do not personally interest themselves and municipal members have not sufficient responsibility.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

AN extraordinary Comitia was held on Dec. 22nd, 1913, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following communications were received: 1 From the secretary of the Royal College of Surgeons of England, dated respectively Nov. 13th and Dec. 15th, reporting proceedings of the Council of that College upon those days. 2. From the secretary of the Royal Sanitary Institute, dated Nov. 25th, inviting the College to appoint delegates to their Congress which is to be held in Blackpool in July next. It was resolved that it should be left to the President to appoint delegates at a later date. 3. From the chairman of the Royal Commission on Venereal [illegible] was delegated to nominate Fellows as witnesses. 4. From Mr. A. M. Burke, dated Dec. 6th, asking permission to photograph the portrait of Sir Thomas Millington. The request was granted.

A report was received from the Representative of the College upon the General Medical Council (Dr. Norman Moore).

A report was received, and adopted, from the Committee of Management dated Dec. 16th. The report was as follows:—

1. [illegible] of th[illegible] Tropi[illegible] comm[illegible] propo[illegible] stitut[illegible]

I[illegible]

I[illegible] and (*c*) practical laboratory work in the following subjects: [illegible] parasitology, [illegible]

P[illegible] [illegible]ral questions; [illegible] l diseases and hygiene. This will include helminthology, protozoology, zoology, and entomology in their relations to clinical medicine.

III. The fee for admission to Part I. is £5 5*s*., and the fee for admission to Part II. is £4 4*s*.

IV. Candidates may enter for Parts I. and II. separately, or together, but they will not be allowed to proceed to Part II. until they have passed Part I.

2. The committee also recommend that the following institutions which have been visited by a member of the committee and reported on as fulfilling the requirements of the Board, be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics—viz.: St. Chad's College, Denstone; Bournemouth Municipal College; and Bournemouth School.

After some further formal business the PRESIDENT dissolved the Comitia.

PRESENTATION TO A MEDICAL MAN.—Dr. Emyr Owen Price, medical officer and public vaccinator for Bangor district of Carnarvonshire, has been presented by his professional colleagues with a motor-car in recognition of the work which he has done on behalf of his profession in connexion with the National Insurance Act.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of 1913 is estimated at 17,852,766 persons, 8321 births and 4997 deaths were registered during the week ended Saturday, Dec. 20th, 1913. The annual rate of mortality in these towns, which had been 14·1, 13·2, and 14·5 per 1000 in the three preceding weeks, further rose to 14·6 per 1000 in the week under notice. In the first 12 weeks of the December quarter the mean annual death-rate in these towns averaged 13·8, or 0·1 per 1000 more than the corresponding rate in London. Among the several towns the death-rate in the week under review ranged from 4·2 in Ilford, 6·7 in Acton, 7·6 in Gillingham, 7·9 in Bury, and 8·2 in Cambridge, to 23·2 in Dewsbury, 23·6 in South Shields, 24·5 in Smethwick, 26·4 in West Bromwich, and 29·0 in Middlesbrough.

The 4997 deaths from all causes were 45 in excess of the number in the previous week, and included 341 which were referred to the principal epidemic diseases, against 269 and 324 in the two preceding weeks. Of these 341 deaths, 96 resulted from infantile diarrhœal diseases, 69 from diphtheria, 62 from measles, 56 from whooping-cough, 38 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·0, against 0·8 and 0·9 per 1000 in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 152, 101, and 94 in the three preceding weeks, were 96 in the week under notice; of this number 27 were registered in London, 7 in Manchester, 5 in Stoke-on-Trent, and 4 each in Birmingham, Sheffield, and Rhondda. The deaths referred to diphtheria were 69, against 65, 45, and 70 in the three preceding weeks, and included 12 in London, 4 in Stoke-on-Trent, 4 in Manchester, and 3 each in Southampton, Birmingham, and Liverpool. The fatal cases of measles, which had been 39, 40, and 54 in the three preceding weeks, further rose to 62, of which number 12 occurred in Burnley, 8 in Middlesbrough, 7 in Sheffield, 5 in London, 4 in West Bromwich, and 3 each in Stoke-on-Trent, Stockport, and Bradford. The deaths attributed to whooping-cough, which had been 39, 32, and 57 in the three preceding weeks, were 56, and included 10 in London, 6 in Birmingham, 6 in Liverpool, and 3 each in Norwich, Manchester, Hull, and Leeds. The deaths referred to scarlet fever, which had been 35, 37, and 23 in the three preceding weeks, rose to 38; 7 deaths from this disease were recorded in London, 5 in South Shields, 3 in Birmingham, and 2 each in Great Yarmouth, Wallasey, Liverpool, and Sunderland. The fatal cases of enteric fever, which had been 18, 14, and 26 in the three preceding weeks, declined to 20, and included 5 in London and 2 in Newcastle-on-Tyne.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 4112, 4143, and 4137 at the end of the three preceding weeks, had further declined to 4048 on Dec. 20th; 458 new cases were admitted during the week, against 618, 524, and 552 in the three preceding weeks. These hospitals also contained on Dec. 20th 1156 cases of diphtheria, 169 of whooping-cough, 60 of measles, and 58 of enteric fever, but not one of small-pox. The 1278 deaths from all causes in London were 48 in excess of the number in the previous week, and were equal to an annual death-rate of 14·7 per 1000. The deaths referred to diseases of the respiratory system, which had been 261, 227, and 291 in the three preceding weeks, further rose to 307, and were 22 in excess of the number in the corresponding week of last year.

Of the 4997 deaths from all causes in the 96 towns, 197 resulted from various forms of violence, and 431 were the subject of coroners' inquests. The causes of 25, or 0·5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Liverpool, Manchester, Leeds, Bristol, Bradford, Hull, and in 59 other smaller towns. Of the 25 uncertified causes of death, 6 were registered in Birmingham, and 2 each in Preston, Sheffield, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of 1913, 1249 births and 751 deaths were registered during the week ended Saturday, Dec. 20th, 1913. The annual rate of mortality in these towns, which had been 17·0, 15·6, and 17·0 per 1000 in the three preceding weeks, further rose to 17·3 per 1000 in the week under notice. During the first twelve weeks of the December quarter the mean annual death-rate in these towns averaged 15·4, against a corresponding rate of 13·8 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rate in the week under review ranged from 8·9 in Perth, 9·8 in Clydebank, and 13·5 in Hamilton, to 22·5 in Paisley, 25·6 in Kilmarnock, and 26·0 in Ayr.

The 751 deaths from all causes were 17 in excess of the number in the previous week, and included 79 which were referred to the principal epidemic diseases, against numbers rising from 68 to 86 in the four preceding weeks. Of these 79 deaths, 39 resulted from measles, 14 from infantile diarrhœal diseases, 12 from diphtheria, 11 from scarlet fever, and 3 from whooping-cough, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases was equal to 1·8, against 1·0 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 35, 40, and 36 in the three preceding weeks, rose to 39 in the week under review, and included 16 in Glasgow, 5 in Paisley, 4 in Edinburgh, 3 in Leith, and 3 in Kirkcaldy. The deaths of infants under 2 years referred to diarrhœa and enteritis, which had been 8, 14, and 13 in the three preceding weeks, were 14, of which number 6 occurred in Glasgow, 2 in Edinburgh, and 2 in Hamilton. The fatal cases of diphtheria, which had been 14, 12, and 17 in the three preceding weeks, declined to 12, and included 4 in Aberdeen, 3 in Glasgow, and 2 in Greenock. The deaths attributed to scarlet fever, which had been 11, 8, and 12 in the three preceding weeks, were 11 in the week under review, and included 5 in Glasgow and 3 in Kilmarnock. The 3 deaths referred to whooping-cough were slightly below the average in the earlier weeks of the quarter, and were recorded in Glasgow, Greenock, and Kirkcaldy respectively.

The deaths referred to diseases of the respiratory system, which had been 129, 123, and 157 in the three preceding weeks, declined to 139 in the week under notice; 32 deaths resulted from different forms of violence, against 23 and 30 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of 1913, 529 births and 435 deaths were registered during the week ended Saturday, Dec. 20th. The annual rate of mortality in these towns, which had been 16·6, 16·0, and 17·7 per 1000 in the three preceding weeks, further rose to 18·9 per 1000 in the week under notice. During the first 12 weeks of the December quarter the mean annual death-rate in these Irish towns averaged 17·3 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·8, while in the 16 Scotch towns it was equal to 15·4 per 1000. The annual death-rate in the week under review was equal to 20·3 in Dublin (against 14·7 in London and 17·6 in Glasgow), 18·6 in Belfast, 23·1 in Cork, 11·4 in Londonderry, 17·6 in Limerick, and 34·2 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 12·8 per 1000.

The 435 deaths from all causes were 28 in excess of the number in the previous week, and included 36 which were referred to the principal epidemic diseases, coinciding with the number recorded in each of the two preceding weeks. Of these 36 deaths, 11 resulted from infantile diarrhœal diseases, 8 from scarlet fever, 8 from diphtheria, 6 from whooping-cough, 2 from measles, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·6 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it reached 1·8 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 12, 13, and 6 in the three preceding weeks, rose to 11 in the week under review, and comprised 8 in Dublin, 2 in Galway, and 1 in Belfast. The deaths referred to scarlet fever, which had been 5, 13, and 8 in the three preceding weeks, again numbered 8, of which 5 occurred in Belfast and 3 in Dublin. The 8 fatal cases of diphtheria, of which 6 were registered in Dublin, coincided with the number recorded in the previous week. The 6 deaths attributed to whooping-cough were 2 in excess of the average in the earlier weeks of the quarter, and included 3 in Belfast. The fatal cases of measles were recorded in Dublin and Galway respectively, and that of enteric fever in Dublin.

The deaths referred to diseases of the respiratory system, which had been 76, 73, and 92 in the three preceding weeks, fell to 80 in the week under notice. Of the 435 deaths from all causes, 136, or 31 per cent., occurred in public institutions, and 5 resulted from various forms of violence. The causes of 18, or 4·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 0·5 per cent.

THE SERVICES.

THE FOOD REQUIREMENTS OF THE BODY IN ACTIVE SERVICE.

An important contribution to the study of practical [illegible] officers in medical charge and for the purpose of taking scientific observations. The marching took place on Salisbury Plain between Oct. 10th and 23rd, the weather conditions [illegible] in these [illegible] total average Calorie value bei [illegible] the first week 13 men gained and 7 lost weight; in the second week only 2 men gained and the remainder lost. The average gain in the first week was 0·32 kg.; the average loss in the second week 1 kg. For the whole period 5 men gained and 15 lost weight, the balance of loss being 0 69 kg. per man; that is, the difference between the averag [illegible] (64·15 kg.) and at the end of th [illegible] increase in weight during the fir [illegible] to have been due mainly, if not ent [illegible] in some form, probably in musc [illegible] last five days of the experiment [illegible] loss of 234 grammes (about ½ lb.) i [illegible] and of 334 grammes (about ¾ lb., [illegible] officers. This was not due only, or chiefly, to diminution of fat, bu [illegible] The loss [illegible] in the h [illegible] the ration supplied, especially in the amount of fat. The [illegible] position of the field [illegible] e different food con- [illegible] potatoes (weighing [illegible] ould be substituted [illegible] cheese, 2 oz. dried peas, beans, or lentils (or 2 oz. oatmeal), 3 oz. coffee, milk, and sugar (in block form), and 4 oz. jam (additional to the [illegible]

[illegible] major and 5 men of the Royal Army Medical Corps, with a regimental officer, an Army Service Corps officer, and three officers of the Royal Army Medical Corps. On each occasion the men were volunteers, and received a consideration of 1*s*. 6*d*. a day for their [illegible] it of the previous [illegible] ible) worse. The [illegible] being pitched at [illegible] day, and almost [illegible] temperature was [illegible] unsheltered, the site peaty. In spit [illegible] behaviour of the m [illegible] experiment loyally [illegible] party was very go [illegible] (probably due to c [illegible] In addition to the [illegible] of bacon, of cheese, [illegible] tea, sugar, and jam very slightly increased. In this dietary during [illegible] fat 142 [illegible] hat work of the march [illegible] 1900 (3034 Calories) the [illegible] whole period was experienced by 10 of the men, 8 lost weight, and 2 made up in the second week for loss of weight during the first. The increase in protein, fat, and carbohydrate provided during the second march is considerable when compared with the corresponding amounts is[illegible] during the first march; and the total average Calorie valu[illegible] (4511) of the second is 30 per cent. higher than that of the first dietary (3465). The appearance of the men was strikingly different on the second occasion. No man showed any sign of wasting, no hollow cheeks, no sunken eyes. The first expedition was (unofficially) known amongst the troops as the "hunger march," which aptly expresses the view of the rank and file; but after the second march a considerable number of men expressed regret that it was not going to extend over another fortnight. The report must be consulted for details of weights, distances, food quantities, &c., all of which are set out in an admirably clear and complete manner. It is satisfactory to learn from the preface that the Army Council have approved of the field service ration (weighing 3 lb. and yielding 4500 Calories) recommended by the committee, and have directed that experiments in lightening the equipment should be continued.

ROYAL NAVY MEDICAL SERVICE.

Fleet-Surgeon Cyril James Mansfield, M.V.O., has been promoted to the rank of Deputy Surgeon-General in his Majesty's Fleet (dated Sept. 27th, 1913).

The following appointments have been notified:—Fleet-Surgeon: H. B. Maryiott to the *Egmont*. Staff-Surgeons: J. J. H. Rooney to the *Albemarle*; J. D. Keir to the *Natine*, and on recommissioning; and P. T. Sutcliffe to the *Hindustan*. Surgeons: C. M. R. Thatcher to the *Victory*, additional, for long course of physical training; and G. B. Cockran to the *Europa*, for voyage out and home.

ROYAL NAVAL VOLUNTEER RESERVE.

The rank of Surgeon Probationer in the Royal Naval [illegible] 2*s*. a day.

ARMY MEDICAL SERVICE.

[illegible] C.M.G. [illegible]

ROYAL ARMY MEDICAL CORPS.

Major James C. Jameson to be Lieutenant-Colonel, vice [illegible]

[illegible] for appointment [illegible] East Indies, vice [illegible] pointed Deputy [illegible] tish Command.

[illegible] en appointed to [illegible] ment, vice Major J. Smith.

[illegible] pital, Woolwich, vice [illegible] C.S.I. Lieutenant- [illegible] for the increased rate [illegible] Warrant. Lieutenant-Colonel J. Girvin has arrived home for duty from Ahmednagar Cantonment. Lieutenant-Colonel H. E. Winter and Lieutenant-Colonel G. A. T. Bray have exchanged positions on the roster; the latter officer will remain on the Home Establishment. Lieutenant-Colonel T. G. Lavie has arrived [illegible] for duty from [illegible] ed under orders for a tour of duty in Jamaica. Major A. W. Sampey has been appointed to hold medical charge of the Enteric Fever Convalescent Depôt at Wellington Cantonment, Madras Presidency. Major H. F. Shea has been selected for appointment as Specialist in Advanced Operative Surgery to the Lahore Division of the Northern Army in India. Major B. Watts [illegible] Major [illegible] O.B. [illegible] ent of [illegible] ation) [illegible] Command. Major C. H. Hopkins has taken over medical charge at Devizes. Major B. F. Wingate has been appointed to the London District for duty.

Captain T. S. Dudding has embarked for India. Captain A. W. Byrne has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary to the

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[1] Wyman and Sons, Cd. 7182, price 1*s*. 1*d*.

Lahore Division of the Northern Army in India. Captain J. A. Turnbull has been appointed to hold charge of the Military Hospital at Kamptee Cantonment. Captain J. J. O'Keefe has arrived home for duty from India. Captain D. E. Curme has been transferred from Aldershot to the Northern Command for duty at York. Captain A. Hendry has arrived home from the Military Hospital at Colaba, Bombay, on general leave of absence. Captain N. E. J. Harding has been selected for appointment as Medical Officer to the Tower of London. Captain K. A. C. Doig has embarked for service in India. Captain H. W. Russell has been placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters of the Sirhind Brigade at Ambala Cantonment. Captain M. B. H. Ritchie has been appointed for duty at the Military Hospital, Colchester. Captain W. Benson has been transferred from the Royal Herbert Hospital at Woolwich to the Aldershot Command. Captain J. A. W. Webster has embarked for a tour of duty in India. Captain T. H. Dickson has arrived home on general leave of absence from the Military Hospital at Gibraltar. Captain W. B. Purdon has taken up duty at the Military Hospital, Belfast. Captain P. Power has embarked for a tour of service in India. Captain E. L. Moss has been transferred from Salisbury Plain to the Portsmouth District. Captain A. E. F. Hastings has taken up duty at the Military Hospital, Chatham. Captain J. du P. Langrishe has been appointed to the Irish Command. Captain W. D. C. Kelly has taken up duty at Pretoria as Specialist in Advanced Operative Surgery. Captain G. W. W. Ware has been transferred from the Military Hospital at Youghal to Kilkenny. Captain G. De la Cour has taken up duty at the King George V. Military Hospital, Dublin. Captain E. W. M. Paine has joined at Manchester for appointment as Recruiting Medical Officer on the Staff. Captain M. Keane has been transferred from Warwick to [illegible] al at Bulford Camp, Salisbury Plain. [illegible] ns have joined the Royal Army Medical [illegible] for the courses of instruction for pro- [illegible] f Major:—F. A. McCammon, A. Dawson, F. Forrest, V. C. Honeybourne, V. G. Johnson, C. R. M. Morris, R. E. U. Newman, E. W. M. Paine, and J. B. Grogan.

INDIAN MEDICAL SERVICE.

The King has approved of the promotion of Major George Yeates Cobb Hunter to Lieutenant-Colonel (dated Nov. 17th, 1913).

The King has approved of the retirement of the following officers:—Colonel Alfred Woodrow Stanley Wingate (dated Dec. 19th, 1913) and Lieutenant-Colonel Edward Ross Morton (dated Nov. 27th, 1913).

Surgeon-General Sir C. Pardey Lukis, K.C.S.I., has been appointed an additional member of the Imperial Legislative Council, vice Surgeon-General A. M. Crofts, C.I.E., resigned.

Colonel J. Crimmin, V.C., C.B., C.I.E., has been selected for appointment as Assistant Director of Medical Services to the Derajat and Bannu Brigades, in succession to Colonel E. B. Grayfoot, transferred. Colonel P. Hehir has been transferred from the Burma Division to the Sixth (Poona) Division of the Southern Army, and appointed Assistant Director of Medical Services, vice Surgeon-General T. M. Corker, transferred to Secunderabad.

Lieutenant-Colonel A. W. T. Buist has taken up duty at Campbellpore as Superintendent of the District Jail, vice Captain H. C. Keates, transferred. Lieutenant-Colonel G. McI. C. Smith, civil surgeon, has been appointed to Ludhiana, relieving Captain A. K. Lauddie, transferred. Lieutenant-Colonel C. N. C. Wimberley has been selected for appointment as Deputy Assistant Director of Medical Services (Mobilisation) to the Secunderabad Division, vice Lieutenant-Colonel D. D. Shanahan, tour expired. Lieutenant-Colonel G. B. Irvine has arrived home on general leave of absence from India. Lieutenant-Colonel G. Bidie has been granted an extension of leave of absence home from India.

Major W. R. Battye has been selected for appointment as Residency Surgeon at Mewar State. Major H. J. Walton has been selected for appointment as Professor of Pathology on the staff of King George's Medical College at Lucknow. Major W. Glenn Liston, director of the Bombay Bacteriological Laboratory, has been appointed to act as Senior Member of the Plague Research Commission. Major S. R. Christophers has been appointed to officiate as Director of the Central Research Institute at Kasauli during the absence on special duty of Major W. F. Harvey. Major J. W. Watson has been selected by the Foreign Department of the Government of India for appointment as Agency Surgeon in the State of Bhopal. Major G. McPherson has been appointed Presidency Surgeon, Second District Bombay, and to hold medical charge of the Common Prison, the House of Correction, and the Byculla Schools. Major E. C. MacLeod has been selected for appointment as Civil Surgeon at Darrang, Assam. Major W. H. G. Forster has arrived home on combined leave of absence from India. Major A. Gwyther, civil surgeon at Rajshahi, has been appointed for temporary duty under the Director-General, Indian Medical Service. Major H. A. J. Gidney, civil surgeon in charge of the Naga Hills District, has been appointed to Delhi in connexion with anti-malarial prevention. The services of Major A. C. MacGilchrist have been placed temporarily at the disposal of the Education Department of the Government of India. Major D. McCay has been granted leave of absence for seven months.

The services of Captain G. Holroyd have been placed at the disposal of the Lieutenant-Governor of the United Provinces of Agra and Oudh by the Government of Bengal, to officiate as Superintendent of the Central Prison at Bareilly, vice Captain J. F. Boyd. Captain F. H. Salisbury has arrived home on leave of absence from India. Captain H. G. Stiles Webb has been appointed for duty to the Sanitary Department of the North-West Frontier Province. Captain R. B. Lloyd has been appointed to officiate as Chemical Examiner to Bengal Presidency and Professor of Chemistry in the Government Medical College at Calcutta. Captain T. J. C. Evans has keen appointed to hold civil medical charge of the Manipur State. Captain R. T. Wells has been transferred from Lahore to Jullundur and appointed Plague Medical Officer. Captain C. A. Gill, officiating civil surgeon, has been appointed Chief Malaria Medical Officer in the Punjab on return from leave in succession to Captain H. G. Stiles Webb. Captain M. J. Holgate has been appointed provisionally to hold charge of the Cantonment General Hospital at Quetta, vice Major G. Brouse. Captain B. E. M. Newland has taken up duty at Etawah. Captain J. O'Leary has arrived home on general leave of absence from India. Captain F. R. Coppinger has been appointed Staff-Surgeon at the Crater, Aden, in addition to his other duties, vice Captain E. D. Caddell, R.A.M.C.

Lieutenant B. F. Eminson has been appointed to officiate as medical officer to the 127th Queen Mary's Own Baluch Light Infantry.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd East Anglian Field Ambulance, Royal Army Medical Corps: Captain James M. G. Bremner to be Major (dated Nov. 5th, 1913).

2nd Western General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Graham Steell resigns his commission (dated Dec. 24th, 1913).

1st London Divisional Clearing Hospital, Royal Army Medical Corps: Major Alexander Barclay Lyon, from the List of Officers attached to Units other than Medical Units, to be Lieutenant-Colonel (dated Nov. 28th, 1913).

Attached to Units other than Medical Units.—Captain Edward R. Williams resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated Dec. 24th, 1913).

Major Richard C. M. Pooley is retired, under the conditions of paragraph 116 of the Territorial Force Regulations, and is granted permission to retain his rank and to wear the prescribed uniform (dated Dec. 24th, 1913).

THE MEJIDIEH DECORATION.

A special order of the Egyptian army issued by the Sirdar from headquarters (Khartoum) on Nov. 17th mentions that El Bimbashi C. Cassidy (Captain R.A.M.C.) has been brought to the notice of the Khedive for good service in connexion with recent operations against the Ajaakir tribe. The Khedive subsequently conferred the fourth class Mejidieh decoration on El Bimbashi C. Cassidy in connexion with the operations mentioned.

DONATIONS AND BEQUESTS.—In accordance with the wishes of the late Dr. C. Theodore Williams his widow has sent a cheque for £1000 to the Brompton Hospital for Consumption, to name a ward to his memory.—The late Mrs. Sarah Berry, of Wimbledon, has bequeathed £1000 to the Royal Hospital for Incurables at Putney.—By the will of the late Mr. R. Bayly, of Bideford, the South Devon and East Cornwall Hospital and the Royal Albert Hospital, Devonport, will receive £500 each, and the Leominster Cottage Hospital £100.—The late Mrs. E. S. Millar, of Belfast, has bequeathed £500 to the Royal Victoria Hospital, Belfast, and £200 each to Homes for the Blind, Cliftonville, Society for Providing Nurses for the Sick Poor, Ulster Hospital for Children and Women, Belfast Hospital for Sick Children, and Forster Green Hospital for Consumption and Chest Diseases.—By will the late Mr. R. H. Hooker, of Weston-super-Mare, has bequeathed £1000 to the Church Missionary Society for the maintenance of its medical hospital at Srinagar, Kashmir. Subject to one life interest he left £500 to the Weston-super-Mare Hospital, and the ultimate residue of his property, subject to various legacies and annuities, he left to the Church Missionary Society for the maintenance of its medical missions.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from Vol. II., 1913, p. 1798.)

XXXII.—INSURANCE PROBLEMS IN GERMANY COMPARED WITH THOSE IN ENGLAND.

DURING the past summer I made it my business to look into the working of the German insurance legislation on the spot, which was the easier for me since I was already familiar with the problems. The influence of the German example is known to have been strong upon the framers of the British Acts. Other writers have made valuable comparisons in THE LANCET and elsewhere between the British and German conditions, but these first-hand observations may well be introduced here and now, at the commencement of the second year's consideration of medical practice under our own Insurance Act.

Medical Strikes in Germany.

Though in some respects quite different, there are several points of close resemblance between the practical effects and the difficulties created by the German law for compulsory insurance and those resulting from the British Insurance Act. A few months ago I was able to call at the offices of the Verband der Aerzte Deutschlands at Leipsic. Here I was cordially received by Dr. J. Hartmann, the general secretary of this great medical union, which counts more than 25,000 members. I soon found that many of the situations which had forced the medical practitioners of Germany to form a fighting union, with strike funds, were the same or very similar to those that exist in England. Of this I had already previous knowledge. In 1909 I went to Cologne to describe the great medical strike which was then taking place in that town.[1] Some 80 practitioners had revolted against their conditions of employment by the societies carrying out the insurance law. They claimed that the patients should have the right to the free choice of doctor, and that no practitioner should be allowed more than 2000 insured persons on his list. Earlier than this, viz., in 1904, there was a medical strike for similar reasons. The societies formed by the insured, the sick club or *Cassa* as they are called, had imported as strike breakers 32 or 35 practitioners. But on this occasion the Government took sides with the medical profession, declared that the societies had not a sufficiently numerous medical staff to attend to all the persons insured, and that they must come to an agreement with the local practitioners. The strike of 1904 proved, therefore, quite successful, and an agreement for five years was concluded. It was because the societies would not renew this agreement of 1904 that the second strike broke out in 1909. It did not prove successful, because the *Cassa* was able to secure the services of a sufficient number of medical officers, and therefore each doctor had a reasonable number of insured persons on his list. In England, in all the large centres the same grievance may arise for the local profession. In several cities certainly there are two, three, or more panel doctors who have 3000 to 4000 insured persons on their lists. This is considered a danger by both medical men and the public, and one that may become an abuse; and there is a general feeling that something should be done to prune such superabundant lists. As the German Government had intervened at Cologne when these lists comprised more than 2000 insured persons I recalled these circumstances to Dr. Hartmann, and inquired if the law, or the regulations for applying the law, in Germany established a limit to the number of persons that any one practitioner should accept on his list. His reply was to the point.

The German Government and a Limit to the Panel List.

Dr. Hartmann said there was no law, but that a tacit understanding existed that 2000 names were enough on one list; and that when in 1904 this number was greatly and often exceeded, the Government did interfere, so that many persons then imagined there was some clause in the law establishing a limit. As a rule, the insurance societies or the officials of the *Cassa* recognise the need of a limit; still, if one such organisation did allow a doctor to have a very long list no legal action against anyone could be taken. The notion also that a doctor could have a very long list and make a sub-contract with an assistant to do a portion of the work, and thus establish a sort of sweating system, does not trouble the organised members of the medical profession in Germany. Such cases do exist, but they are few and far between. The Verband, of course, sets its face against them. Such matters are generally regulated by the agreements drawn up between the Verband on behalf of the medical profession and the *Cassa* on behalf of the insured, and both sides are interested in preventing sweating and in not allowing any practitioner to have more patients than he can properly attend upon. Thus it may be said that, though there is no legal enactment, the general feeling, both of the medical profession and of those who administer the insurance funds—i.e., the society or *Cassa*—is distinctly opposed to sub-contracts which may lead to the sweating of medical men, and does not approve the allocation of more than 2000 insured persons to any one practitioner.

These are two very important points bearing on the working of the Insurance Acts in England. At first it was understood with us that panel doctors should not be allowed to send assistants to attend their patients. Then the idea got about that this might be done; but, on the other hand, the patient might object, and in that case the objection would be held as valid. Another interpretation was that if a panel doctor employed an assistant, the assistant, to attend insured patients, must have his name on the panel and have been selected by those patients; consequently they became his patients and not his employer's patients. The whole matter in England is still ill-defined; but the opponents of the sweating system, whether the sweater concerned be himself a medical man or not, will find in Germany an inspiring example. Those also who think that it tends to the degradation of medical science for a panel doctor to have too many insured persons on his list will likewise derive from the German custom and example considerable encouragement. It is no small matter to know that in these questions the powerful Leipziger Verband is on their side. The fact that in 1904 the German Government interfered at Cologne because there were more than 2000 persons on some of the lists the Medical Service Board was a weighty one, and it seemed advisable that they should consider forthwith how far they could unite with other public bodies in presenting a coherent and well-articulated scheme to the Board. Dr. Robertson went on to say that from a long and intimate knowledge of the county of Inverness he was convinced that public opinion was growing more and more to be in favour of larger areas for several of the big public services of the county. He considered medical service an outstanding case in point. In the present stage of administration the county might be considered the best large unit they could get, and he thought that a scheme of a great advisory medical committee for the whole county, containing representatives of the public health authority, the county national insurance, the school board system, and representatives of the medical practitioners and of the nursing agencies, would be well worth prompt consideration. The decisions of such a body would have weight with the Medical Service Board, in so far as that they would be able from their local knowledge to produce or recommend county, district, or parish schemes that would tend to economy and efficiency in the working. In view of an early meeting of the county council, representatives were appointed from the County Education Committee to ask the county council to draft a scheme under its own auspices, in which case they, if duly represented in the central body, would be glad to coöperate.

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[1] THE LANCET, July 31st, 1909, p. 324.

Adulteration of Milk in Glasgow.

According to the report from the corporation of Glasgow's chemical department, during the past year there were examined 332 samples of sweet milk, 19 of cream, and 19 of skimmed milk. Of sweet milk 97 samples, of cream 2, and of skimmed milk 2, were adulterated. Of the sweet milk samples 67 per cent. were certified as adulterated solely on account of deficiency in fat, apparently resulting from the artificial reduction of the quality of sweet milk by the admixture of separated milk. The only way to obviate this practice was to get the official sanction of the Board of Agriculture to make compulsory the labelling of separated milk as such. The report also suggested the extension to Scotland of the Public Health (Milk and Cream) Regulations, 1912. The form of adulteration of butter most difficult to detect was the addition of small quantities of animal fat. Of the 247 samples of butter submitted 27 were certified as adulterated from this cause.

Airdrie Sanatorium Question.

At a special meeting of the Airdrie Town Council last week it was decided to provide a local tuberculosis sanatorium for the town itself, rather than to enter into a joint scheme with other Lanarkshire burghs. The Local Government Board will be so notified, though the precise nature of the scheme has yet to be determined.

Territorials and the City Hospital, Aberdeen.

The secretary to the City of Aberdeen Territorial Force Association has sent a letter to the public health committee asking whether, in the event of mobilisation, an arrangement could be made with the council whereby beds in the city hospital could be provided for infectious cases. A reply has been given that the council, without recognising any obligation as to reserving a specified number of beds, is ready to make such arrangements as it can for army cases consistent with meeting the more pressing needs of the city itself, and it is added that there is every likelihood that at least one pavilion, accommodating 40 to 50 patients, could be made available.

Dinner to Dr. Melville Dunlop.

Recently Dr. Melville Dunlop was entertained to a complimentary dinner by his colleagues and old resident physicians in the Caledonian Station Hotel on the occasion of his retirement from the staff of the Royal Edinburgh Hospital for Sick Children, with which he has been connected for 27 years. Mr. Harold J. Stiles presided over a large company, and in making a presentation of some handsome silver plate spoke of the affection and esteem which were universally entertained for Dr. Dunlop and of the valuable services he had rendered both as a teacher and as a physician to the hospital. Dr. Dunlop, in an interesting speech, sketched some of the changes and developments which had occurred during the long period he had been associated with the hospital.

Dec. 29th, 1913.

IRELAND.

Venereal Disease in Dublin.

THE figures given by Sir William Thompson Registrar-General, before the Royal Commission on Venereal Diseases[1] give rise to some cause for question. Sir William Thompson stated that the death-rates from syphilis and general paralysis o the insane were in Dublin abnormally high, being about twice those of London. It is probable tha the incidence of venereal disease in Dublin i high, and this is in great part explained by the presence of an unusually large number o soldiers in proportion to the civil population The incidence is not, however, so high as might be assumed from a consideration o the death-rate alone. The accuracy of the officially recorded death-rate depends on the accuracy with which the primary cause of death is stated in death certificates. In the case of a death from venereal disease occurring in private practice, it is but rarely that the fact appears on the death certificate, which, as a rule, has to pass through the hands of near relatives of the deceased. The death-rate from venereal disease is, therefore, probably much higher as regards persons attended in private practice than the official returns show. This error does not come in, however, in the case of persons who die in public institutions. In Dublin nearly half the deaths occur in public institutions, a much higher proportion than in any other city in the kingdom The statistics for Dublin as regards venerea disease approach, therefore, more nearly to accuracy than the statistics for London or other large towns.

The National Insurance Act.

The Irish Medical Committee, who have been negotiating with the Irish Insurance Commissioners, have requested the various Local Medical Committees to obtain guidance from the Central Committee on the following questions: In case of appointment of more medical referees, should these be selected by the Irish Insurance Commissioners on the nomination of the various Local Medical Committees, or should the Friendly Societies have the right to choose them as required? Further, should they be part- or whole-time officers?

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[1] THE LANCET, Dec. 27th, 1913, p. 1874.

Belfast Union Workhouse.

Mr. F. J. McCarthy, Local Government Board inspector, has just sent to the Belfast guardians a copy of his report consequent on his recent inspection of the workhouse. From it we find the gratifying intelligence that there had been a reduction of 30 per cent. in the number of workhouse inmates during the past five years, the number of inmates on Saturday, Nov. 8th, 1913, in the workhouse (including the sanatorium at Whiteabbey) being 2898, *instead of* 4139, *on* Nov. 14th, 1908. As regards the management and cleanliness of the institution the inspector speaks very favourably. "Due order was maintained among all classes, and care was taken that the workhouse rules regarding classification were strictly observed." He found the sanatorium for consumptives at Whiteabbey, "as on previous occasions, a model of neatness, cleanliness, and orderliness." The inspector draws special attention to the reduction of cases treated in the maternity hospital in the workhouse since the coming into operation of the National Insurance Act, 1911. For the year ended Sept. 30th, 1912, the total number of births in the union maternity hospital was 405, while in the following year it dropped to 281. The inspector, in concluding his most complimentary report, bears testimony to the "care and attention which the guardians, through their numerous committees, devoted to the work of administration. Lady members of the board took a deep interest in the work of the committees dealing with the sick and of the children under the guardians' charge. Credit was also due to the officers, and in particular to the clerk and master, for the efficient manner in which they discharged their duties."

Certifying Factory Surgeon.

Mr. W. McLorinan, L.R.C.P. & S. Irel., visiting physician to Mater Infirmorum Hospital, Belfast, has been appointed Certifying Factory Surgeon for North Belfast, in place of Dr. J. E. MacIlwaine, resigned.

PARIS.

The Léon Bourgeois Dispensary.

THE name of M. Léon Bourgeois, to whose efforts much social legislation in France is due, and particularly the antituberculosis laws, has been given to a new dispensary established in the gardens of the Hôpital Laennec. This dispensary has three divisions—one devoted to the hospital care of patients, another to consultation, and a third, the essential element of the institution, to a preventorium. This last consists of rest and fresh air galleries where poor people whose condition does not demand confinement to bed pass the day or part of it in rest and superalimentation, returning at night to their homes, of which the sanitary condition is controlled by frequent visits from the dispensary officials. The plan has met with enthusiastic support from the population, constituting, as it does, a middle course between sanatorium and domiciliary treatment. It affords the necessary rest and alimentation to tuberculous patients still able to work, while permitting them to earn something for the support of their families, for they spend only so much time as is necessary daily in the preventorium. The inauguration of the dispensary was the occasion of an official ceremony at which the President of the Republic, as well as M. Léon Bourgeois, was present. The President seized the opportunity to explain the antituberculosis programme of the Assistance Publique of Paris. This consists of dispensaries for out-patient consultations; the distribution of aid in kind and money, and the inspection of dwellings; the provision of preventorium treatment; the reservation of special quarters for the tuberculous patients in certain of the Paris hospitals, and the establishment of a suburban hospital for the tuberculous, the construction of which is about to be begun in the neighbourhood of Paris.

The General Mortality in France.

According to the recently published report of M. Mirman, Directeur de l'Assistance et de l'Hygiène Publique in the Ministry of the Interior, for the year 1911—a particularly fatal year in nearly all European countries—the total deaths in France were 775,088, equal to a death-rate of 19·59 per 1000, a total increase of 70,318 over the preceding year. The increase was mainly among children under one year and people over 60, the excess in the former group being 30,172, in the latter 26,410. Enteritis was the predominant factor in the first group, carrying off 46,769, or nearly half of the total number (118,300) of deaths in children under one year, an increase of 28,631 over the preceding year. Typhoid fever showed an excess of 1324 deaths in 1911 over the mean of the preceding years, probably due to the excessive heat, which diminished the supply of pure drinking water and also led to the consumption of impure ice. Epidemic diseases showed a general decrease. Influenza, the most fatal, caused 9600 deaths. The total deaths from epidemic diseases were much the same as for deaths from violence and suicide—viz., 29,470, as against 29,163. This indicates that even when hygienic prophylaxis shall have achieved its utmost, much will remain to be done. The epidemic diseases, against which the greatest effort is being made in France to-day, contribute only 4 per cent of the total number of deaths, and this figure is declining with the measures that are being taken against typhoid fever by the provision of an increased supply of drinking water and its protection against contamination, as well as by antityphoid inoculation. Cancer and tuberculosis figures, however, remain disquieting. Cancer in 1911 claimed more victims than all the epidemic diseases put together—viz., 31,768. The condition calls for energetic action. Tuberculosis still claims the highest figure of all, notwithstanding its diminution from year to year. In 1911 it carried off 90,000 victims—that is to say, that between 20 and 40 years 44 per cent. of deaths are due to tuberculosis [illegible] ged against the [illegible] ns and in som [illegible] is still greatly lacking. The Senate is occupying itself with a Bill introduced by M. Léon Bourgeois, M. A. Ribot, and M. Paul Strauss for the establishment of a central bureau of social hygiene and of an antituberculosis office, the passing of which Bill is urgently required, as well as the law regarding cheap dwellings and for the expropriation of insanitary property. M. Mirman, in closing his report, directs attention to the mortality due to alcoholism, still a great scourge in France, and an active factor in tuberculosis, as well as in deaths due to violence and those of children caused by congenital debility.

The Centenary of Claude Bernard.

The centenary of Claude Bernard, who was born on July 12th, 1813, was celebrated by a commemorative ceremony at the Collège de France on Dec. 23rd, in the presence of the President of the Republic and a numerous assembly of the scientific world. M. M. Croiset spoke of the lustre that Claude Bernard, who was professor of physiology there, had reflected upon the college. Professor Bergson told of the influence that the books of Claude Bernard and his conception of life had had upon the spirit of his age. Professor Dastre described the works and the numerous discoveries of Bernard, particularly those relating to the physiology of digestion, and Professor d'Arsonval spoke in the name of the former pupils of the master. The Minister of Public Instruction, in a striking address, described France's debt to the *savant* who began his illustrious career as the humble assistant in a pharmacy at Lyons, came to Paris with a view to getting a tragedy put upon the stage there, and entered the laboratory of Magendie at the Collège de France, finally succeeding him in the chair in 1855. He died at Paris on Feb. 10th, 1878.

Dec. 29th, 1913.

BERLIN.

The Battle of the Clubs.

THE possibility that a sick club may be unable to obtain medical attendance for its members at the usual club rates has not been overlooked in the new Workmen's Insurance Act. It does not appear that the patients need suffer any detriment, for an alternative is indicated in a portion of the Act which provides that in such circumstances the members may receive sick pay in excess of the ordinary allowance for the purpose of enabling them to consult practitioners unconnected with the club. Before making these increased payments, however, the club must obtain permission from the district insurance office, which has also to decide how a patient's inability to follow his employment may be certified when an arrangement for that purpose cannot be made with a medical man. The federal council has recently issued instructions to the district insurance offices informing them under what conditions they may allow the committees of the sick clubs to pay the higher sick rate instead of procuring free medical attendance. It is stated in the instructions that the above provision may only come into force when the local medical men have declined to accept the arrangements proposed by the clubs. When no medical man is willing to give a certificate of illness to the club members, such certificates may be given by non-medical managers of the club, employers, midwives, nurses, or other trustworthy persons. In reference to this the *Medical Reform* rightly observes. What is the use of medical men devoting five years to professional study and passing several examinations when mayors, employers, and "other trustworthy persons" not possessing any medical knowledge may give certificates as to the condition of patients?

Eighteen Laparotomies on one Subject.

Dr. Harzbecker lately showed before the Berlin Surgical Society the case of a patient, 44 years of age, who in 1887 sustained a contusion of the abdomen in consequence of a fall from a horse. The sequelæ of the injury were frequent attacks of ileus, and as many as 18 laparotomies had been performed—the last one five years ago—without a definite cause for the ileus being found. In 1903 colostomy was performed, and finally an anastomosis between the cæcum and the sigmoid flexure was made. Recently he was treated only by electric light baths, enemata, physostigmine, and morphine. Dr. Harzbecker said that the symptoms were obviously due to chronic enterospasmus from a nervous cause, and that it was doubtful whether this condition was the result of the accident or not. The patient had been taking alcohol and morphine in excess since the accident.

Agitation respecting Degrees in Dentistry.

The dental students of the University of Leipsic have decided to engage in a so-called "strike," the reason being that their request for the creation of a degree of Doctor of Dental Surgery has been refused. They have telegraphed to the dental students of other universities to follow their example, and those of the University of Berlin have held a meeting of sympathy, at which it was decided to send delegates to Leipsic for the purpose of taking joint action. To understand the motives of the dental students it must be stated that a dental degree does not exist in Germany, although there is a State examination by which the title of "Zahnarzt" is conferred. Dentists wishing to have a university degree could not be examined by the medical faculties by which the title of M.D. is granted. This degree is obtained only after a regular study of medicine, but not of dental surgery, so the dental students have had to apply to the philosophical faculties where the title of Doctor Philosophiæ might be granted to them after an examination not including any reference whatever to dentistry. This undesirable state of things has led to repeated petitions being presented to the medical faculties and the Government to create the title of doctor of dental medicine or surgery, but these endeavours have hitherto proved unavailing, and the students hope to get by the "strike" what has been refused to less heroic measures. The "strike" has meanwhile extended to nearly all the German universities.

Dec. 24th, 1913.

ITALY.

Monument to Florence Nightingale in Florence.

FLORENCE, the city of the great Englishwoman's birth, has paid a rare tribute to the memory of Florence Nightingale. The British Ambassador, Sir Rennell Rodd, has unveiled in the cloister of Santa Croce, the church which represents to Italians what Westminster Abbey does to Englishmen, a monument to her memory. This is the work of an English sculptor, Mr. F. W. Sargant, brother of the learned judge and of the lady president of the Botanical Section of the British Association, and is a three-quarter life-size symbolical figure representing the "Lady with the Lamp," the name by which the heroine of the Crimea was known to the soldiers in the hospitals. The statue is a beautiful piece of work in the classical style, and has won unstinted praise. The idea of having a permanent record of Miss Nightingale in Florence originated with the British Consul-General in Tuscany at the time of her death. Money was raised by a public subscription, in which citizens of many nationalities joined, while the Deputazione dell' Opera di Santa Croce readily agreed to the suggestion that they should find a site for the monument. The military authorities and those of the province and city, with the Consular representatives, attended the unveiling ceremony, at which a large gathering of the foreign colony and of Italian society assisted. The Croce Rossa was largely represented by officials and lady members, and furnished a guard of honour of its *militi*. Two beautiful wreaths of flowers were presented by the ladies of the Croce Rossa, and placed one on each side of the statue. English nursing was well represented, among others by the Mothers Superior of the Little Company of Mary, the English order of nursing sisters, better known as the Blue Nuns. The British Ambassador, after unveiling the statue, pronounced an eloquent eulogy upon the work and character of Florence Nightingale, emphasising the long and careful training which were the prelude to her life's work. After thanking the authorities who had granted her a place in the precincts of their great shrine, he signed the *atto notarile*, handing the monument over to the care of the Opera di Santa Croce. The epitaph, the work of Senator Professor Isadoro del Lungo, must be given as a model for such work: "Florence Nightingale, MDCCCXX., L'eroina di Crimea, MDCCCCX., La Signora della Lampada, come la chiamarono i soldati che la ebbero infermiera mirabile nelle notti di spedale angosciose e fin d'allora animatrice colla virtù dell' esempio a quell' opera voluntaria di pietà internazionale che poi fu la Croce Rossa. Ha nella sua Firenze dove nacque e ne portò il nome gentile questo ricordo di venerazione e di affetto"—an inscription which sums up in a comparatively few lines the purpose of the monument and the history of its prototype. The statue in the cloister of Santa Croce will remain as a record of the international significance of her life. The ceremony of its unveiling forged another link in the friendship of England and Italy.

Higher Education in Italy.

The number of students of the universities has been gradually decreasing of recent years. From 21,492 in 1908 the number fell to 21,019 in 1909, 20,425 in 1910, and 19,772 in 1911, the last year for which statistics are available. The diminution has been greatest at Naples, Turin, Pavia, and Pisa, while there has been a slight increase at Bologna, Genoa, and Palermo. Naples continues to be the largest university with 4281 students, and Rome comes next with 2895. Turin holds the third place with 1800 students, but is likely to yield it soon to Bologna, which has already 1762. Next comes Palermo with 1511. At the end come Siena with 257, Cagliari with 227, Sassari with 262, and Messina with 87. At Messina, however, some of the faculties have been closed. There is an increase in the number of women students, of whom Turin has 167, Rome 155, Naples 105, Palermo 77, and Pavia 76.

Dec. 27th, 1913.

UNITED STATES OF AMERICA.

The New York Health Department.

Dr. Lederle, head of the health department of New York City, issued on Dec. 7th last a review of the work of that department during the past four years. In this period there has been, it appears from the report, a steady decline in the death-rate of the city. The death-rate for every 1000 of the population for the four years from 1909 was: 1909, 16; 1910, 15·98; 1911, 15·13; 1912, 14·11; and for the 48 weeks of 1913, 13·77. In 1912 the death-rate of Chicago was 14·68; Paris, 16·38; Berlin, 14·39; and London, 14·3. The reduction of infant mortality in New York during the four years has been remarkable, the rate of infant mortality having gone down from 137 in every 1000 in 1900 to 110 in 1912. The reduction in this direction is believed by Dr. Lederle to have been greater than that in any of the ten largest cities of the world, who attributes it largely to improvements of milk-supply. Among other matters mentioned in the report are the progress made in the enforcement of child hygiene and the extension of medical inspection in the schools. In 1912 six clinics for school children were established, free treatment being supplied to those who needed it. This year six dental clinics have been established. An interesting *résumé* of the departmental methods in combating infectious and contagious diseases and in improving those of food inspection is followed by a note on the value of vital statistics, and the necessity of prosecuting practitioners and midwives for failure to notify births. The report affords striking evidence of the energy displayed by the health department of New York during Dr. Lederle's directorship.

A Visit of English Surgeons.

A special clinic was arranged recently by Dr. William Seaman Bainbridge, professor of surgery at the New York Polyclinic Hospital and Medical School, when Sir W. Arbuthnot Lane, Mr. Herbert Paterson, and Dr. Bainbridge himself operated. Sir Arbuthnot Lane performed three operations. One was on an infant ten days old for the cure of cleft palate and hare lip; one was a short-circuiting operation on a patient suffering from intestinal stasis; and the third was a "plating" for fracture. Mr. Paterson did an exploratory laparotomy and Dr. Bainbridge a short-circuiting operation for intestinal stasis. In addition several persons who had been operated upon or treated by Sir Arbuthnot Lane and Dr. Bainbridge for intestinal stasis of varying degrees of severity were shown. Some of these had been operated on as long as five years ago, but all were in excellent health. The theatre in which the clinic was held was filled to overflowing, there being present surgeons from all parts of the United States. Among these may be mentioned Dr. John Wyeth, ex-President of the American Medical Association, ex-President of the New York Academy of Medicine, founder of the New York Polyclinic School of Medicine, and originator of post-graduate medical teaching in the United States.

In the evening a dinner was given to the English visitors at the St. Regis Hotel by Dr. Bainbridge. The guests, who numbered 120, and included representative members of the medical profession from all parts of the United States, heard Sir Arbuthnot Lane describe in detail the origin of his views and technique in dealing with intestinal stasis by operation. After Sir Arbuthnot Lane's address, pictures illustrating various stages of intestinal stasis were thrown on a screen, some of which were made from the X ray work of Dr. Alfred Jordan and some by a lady artist, procured for the purpose by Dr. Bainbridge, who knew nothing whatever of anatomy, and whose drawings, therefore, could only represent exactly what she saw, and not what she might think she ought to see. Great interest was shown by medical circles on the occasion, for, well known as Sir Arbuthnot Lane is on this side of the Atlantic, it was, I believe, the first occasion on which he has publicly expounded his views in detail.

Dec 20th, 1913.

SOUTH AFRICA.

Cape Medical Council.

As a consequence of the recent discussions at the Dental Society of the Cape Province, the Cape Medical Council has adopted a resolution objecting to the professional association of any registered medical or dental practitioner with any commercial firm, company, or association under any form of contract which constitutes such body an agency or intermediary deriving pecuniary advantage in connexion with the rendering of professional services to the public. The Council considers any medical practitioner or dentist associating himself in his professional capacity with any person, firm, company, association, or society which advertises or canvasses either personally or by means of agents for the purpose of procuring patients or customers, guilty of improper or unprofessional conduct. But these resolutions are not to apply to arrangements made by commercial bodies in respect of their own *bonâ-fide* employees, by shipping companies in respect of their passengers, or by hospitals or similar medical or dental institutions in respect of their patients. The committee of the Council recently appointed to consider the question of the certification of native and coloured nurses reported against the present advisability, in view of the requirements of the country, of instituting a lower grade nursing certificate for native and coloured persons. In a minority report Dr. A. J. Gregory differed entirely from the report of the majority. He was of the opinion that it was incumbent on the Council to make provision for the institution of a certificate for native and coloured nurses, obtainable after undergoing a suitable training and examination. After some discussion the matter was postponed until the next meeting of the Council, but it would seem clear that the Council is hostile to the view which is widely held in the country districts that there is need for a lower grade of trained nurse recruited from coloured or native people.

Railway Sick Fund Dispute.

Recently a deputation from the Natal Coastal Branch of the British Medical Association interviewed the Hon. H. Burton, K.C., the Minister of Railways, and Mr. W. W. Hoy, the general manager, on the subject of the rates of remuneration offered to railway medical officers by the South African Railway Sick Fund. The deputation pointed out that all the Friendly Societies in Natal paid their medical officers 12*s.* per head per annum. The members of these societies were working men, who had to find this money out of their own earnings. The sick fund, which was heavily subsidised by the Department out of public funds, was offering medical men little more than half of this amount. It was forcibly represented to the Minister that the Government was actually attempting to cut down medical earnings and asking the profession to work for less than the ordinary working man was already paying. The deputation also pointed out that their resistance was not entirely due to financial reasons; but that it was certain that if less money was paid for medical work, less time would be given to the work and the standard of medical service would be lowered. Mr. Burton stated in reply that in Natal medical services had in the past been remunerated at higher rates than in the other colonies. He pointed out that under Union the sick fund that had been in existence in the other provinces was being extended to Natal, and he stated bluntly that in his opinion the same rates of remuneration should be paid in Natal as had hitherto been paid elsewhere. He admitted that it was unfortunate for Natal that in this case it meant a levelling down of the rates to the standard of the Cape and other provinces, but he did not feel after fully considering all the circumstances that it could be avoided. At any rate, he was not prepared to interfere with the decision come to by the department. The deputation intimated to Mr. Burton that under these circumstances the posts advertised would be boycotted by the branch. So far the advances made by the Government towards a settlement of the dispute have not achieved much result, and resistance to the sick fund continues. Up to the present only one medical man in Durban has accepted the terms offered, the rest of the profession standing solidly together and presenting a united front for better terms.

Mental Asylum, Bloemfontein.

The Mental Asylum at Bloemfontein is about to be considerably enlarged as the result of the decision come to by Parliament last session. The additions will form part of a comprehensive scheme for providing additional accommodation for lunatics throughout the Union. The additions in question will be erected on the villa system, each villa to contain 40 to 50 patients. This system is unquestionably better suited to South African conditions than any other, though perhaps it is relatively somewhat costly to administer. When the additions are completed it is understood that the asylum will be provided with accommodation for some 2000 patients.

Criminal Investigation and Professional Secrecy.

A most unusual circular was recently distributed by the Criminal Investigation Department amongst Western Province practitioners. It stated that in a recent burglary a native, in endeavouring to open a safe, had part of a finger or thumb taken away, and requested any medical practitioner consulted by any native suffering from such an injury to telephone at once to the department. The circular has aroused a good deal of resentment amongst practitioners in the area on the ground that it asks them to commit a gross breach of professional etiquette.

Dec. 14th, 1913.

INDIA.

The Water-supply of the New Capital.

The provision of an ample water-supply at Delhi is of the highest importance, as with the increase in population, owing to the sojourn of the Government of India there during the winter and the preliminary operations connected with the new capital, the demand for water has largely increased. The municipality has, therefore, taken measures to improve and enlarge the existing supply. The purity of the water is beyond dispute, and altogether Delhi need have no anxiety about the quantity and quality of the water supplied to it under present conditions.

Stifling Railway Carriages in India.

Engineers in cold countries who have so successfully dealt with the heating of passenger trains can have but a small idea of the difficulty of cooling them in the tropics when the temperature is 165°F. or more in the sun and 115° in the shade. This is a difficult problem in India, as railway carriages may stand or travel empty in a blazing sun for hours completely shut up until they are literally soaked with heat. The traveller entering one of the vehicles in the summer has very often to choose between sitting in a storm of dust and smoke that enters by the open windows or stewing in a modified oven whose upholstery interferes with his chances of cooling even if he changes into a sleeping suit, which he can only do if travelling alone. Few people in Europe, even those who have travelled in the East, have any idea of the ingenuity that has already been expended on devices for reducing the temperature of the air in trains. Only a very small number of these methods have even been tried on any railway, as railway officers are alive to the fact that every addition of mechanism to a railway vehicle involves additional repair, and therefore additional expense.

The Milk-supply of Bombay.

The Bombay corporation is now discussing new by-laws which it will ultimately lay before the Government with the object of better regulating the stabling of milch cattle. This will do something to improve the Bombay milk-supply, but there is force in the argument that milch cattle should not be allowed on the island at all. There is plenty of suitable land in Salsette in proximity to the railway, and there would be no difficulty in bringing the supply in. The whole question ought to be scientifically approached, and it would probably pay a limited company with adequate capital to take up the enterprise. The corporation should recognise the fact that so long as it allows stables on the island there is little likelihood of anyone collecting cattle at a distance from Bombay. What the public must understand is that by-laws alone will not make a good supply. The trade itself should be directed with intelligence, knowledge, and skill.

The Cocaine Traffic in India.

The Bengal Excise Department recently threw into the Hooghly cocaine worth Rs.114,000 (over £7000 sterling), which formed part of various seizures on board ship and in the town of Calcutta. A better use might conceivably have been made of this confiscated cocaine.

An Overworked Hospital.

In a memorial on the subject of the Eye Hospital in Calcutta addressed to the Chief Secretary of the Government of Bengal, the Council of the European Defence Association declares that the institution in its existing state constitutes a grave scandal. This is not the fault of the hospital staff, who are making the best of exceedingly adverse conditions, and to whose efforts the council pays a deserved tribute. But the building, which may have been adequate for the purposes when it was erected, falls far short of the demands made upon it at the present day. The accommodation is utterly inefficient. The number of out-patients who present themselves for treatment averages 140 daily. In a large proportion of cases they can only be properly treated as in-patients, but there is no room for them. Many of these people travel long distances. Some have been known to walk over 100 miles to the hospital, and it is painful to learn that such pilgrimages were sometimes futile, and that sufferers whose sight could have been saved have become blind because of the impossibility of admitting them for treatment in the overcrowded wards. The absolute lack of accommodation for septic cases also is a serious drawback to good work.

Medical Instruction in Madras.

With the large programme of medical service for women now on the *tapis*, in which Sir Pardey Lukis is evincing particular interest, it is clear that men and women trained as medical practitioners must be provided in increasing numbers to meet the requirements of the Indian population. Even now the supply is inadequate to the demand, and this is particularly the case in Madras. The Madras Medical College has a deservedly high reputation for turning out efficient medical subordinates, but unfortunately it is the only medical institution in the presidency where instruction and training are given. In the last annual report of the Medical College the Government, on the recommendation of the Surgeon-General, has decided to admit for instruction only 80 students annually, so that any applicants in excess of that number must in future be refused. If there were any other institution to which this surplus of candidates could turn for instruction this would not much matter, but as it is, not only are useful careers balked, but the country loses services which it sadly needs.

Dec. 15th, 1913.

AUSTRALIA.

Small-pox in Sydney.

THE small-pox epidemic shows signs of self-exhaustion at last, and during the past five days only one case has been discovered. There are still some 150 persons in quarantine. Early in November a conference of health officials was held in Sydney to discuss the removal of the quarantine embargo placed on that city and its suburbs by the Federal authorities. The chief health officers of all the States were present, together with Dr. J. H. L. Cumpston, the Federal director of quarantine. An atmosphere of secrecy marked the proceedings. The press was not admitted, nor was any official statement issued. The conference unanimously agreed, it is understood, that on certain undertakings by the public health department of New South Wales the quarantine might be lifted, and future procedure in like cases was arranged. Communications have passed between various Governments, and the quarantine is to be lifted on Nov. 26th, although certain minor safeguards will be insisted upon. The remarkable feature of this epidemic has been the occurrence of over 1000 cases without any death directly attributable to the disease.

Contract Practice in New South Wales.

Some time ago the New South Wales Branch of the British Medical Association drew up a model agreement for contract practice, which was declined by the Friendly Societies. A conference between representatives of the medical profession and the societies was subsequently held, and a compromise was attempted. The Friendly Societies' representatives have proved unable to get their concessions ratified, and the situation now shows signs of becoming difficult. The practitioners engaged in contract practice have given in their resignations of all contract appointments, and the Branch Council of the British Medical Association has notified the Friendly Societies, for its members, that unless an agreement is arrived at the resignations will take effect from the end of the present year. Some of the societies are now for fighting the medical profession. Another party are for renewed parleying, with the object of further investigation of differences. Finally, a few "lodge combinations" have frankly accepted the terms asked by the profession.

The foundation by Mr. Wellcome of a museum illustrating every part of the history of medicine is another event of the past year which is likely to have influence on this branch of medical study. Those who visit the museum will often be encouraged to add to it or to make additions to knowledge from that which they have there acquired.

It is just ten years since the first lectures on the history of medicine were delivered at the Royal College of Physicians of London, and the College may justly feel satisfaction in the consideration that its efforts have been crowned by an international approval of the encouragement of the study by the formation of a section in the Congress.

A knowledge of the history of medicine acquired from the writers of each period and from other original sources of history will be of constant use in teaching medicine at the bedside. The errors of the past often show how to avoid error in our own day. The way in which truth was slowly attained in the past often suggests ways of attaining truth in the case under observation. A well-known case from history often helps to impress on the student's mind the facts of a similar case actually before him. These are a few of the uses of history at the bedside.

By a knowledge of the history of his profession and of its work every man gains in dignity, for he comes to live in contact with the men who have added to knowledge in the past as well as with those who increase it in his own time. He is a greater man because he knows so clearly what he owes to Harvey, what to Laennec, and what to Lister, that they become the daily companions of his thoughts. It may be hoped that the study of the history of medicine, which has made so important an advance in 1913, will continue to flourish in this country.

This letter ought not to end without mentioning how great a loss the study has suffered in the death of Dr. Milne—

Dead ere his prime;

His deep learning was displayed at the Congress in his admirable paper on Galen's "Knowledge of Muscular Anatomy."

THE LANCET has, I think, in the past given much encouragement to historical subjects which must be my excuse for writing at such length.

I am, Sir, yours faithfully,

Dec. 29th, 1913. NORMAN MOORE.

A PROPOSED PRIVATE HOSPITAL.

To the Editor of THE LANCET.

SIR,—Little doubt can exist that the accommodation offered to sick people, other than those of the poorer classes, by the existing nursing homes is very bad—that it is very much inferior to that offered in the large public hospitals. This state of things can easily be traced to the failure of an attempt to carry on private hospitals in houses primarily designed for domestic uses, and all the present well-known defects can be traced to that cause. The obvious remedy, therefore, is to build a large central private hospital for paying patients —to establish, in fact, a hotel for sick people in place of the existing lodging-houses. I am writing with particular reference to the needs of London, but have no reason to suppose that those needs are not just as pressing in all large cities.

I am convinced that such an institution must have at least 150 to 200 beds (there are at present over 1000 in the West-end—of course, scattered through medical and surgical homes), that it must be centrally situated in order to be a convenience to both the public and the surgeon, that it must be capable, as to price, of housing all a medical man's cases who can afford fees, and, as far as its accommodation goes, must begin where the modern hotel has left off, not where the hospital has stopped. A person used to the conveniences of a modern hotel does not want less comforts when ill. The matter is one out of which nobody desires to make large profits, and the finance should be arranged so that excess earnings over a certain percentage should go to relieve the fees due from necessitous cases on the less expensive side.

At the moment there are a lot of factors present which should make the effort to establish such an institution successful. I have been working at the subject for some years, but it is one that requires the coöperation of all people interested, as divided or isolated efforts are only likely to lead to failure. Therefore, I shall be pleased to add my endeavour to that of others, and give all the details I have collected to anyone who is disposed to help along the project.

I am, Sir, yours faithfully,

ANTHONY B. BRADFORD, M.D. Durh.

Henrietta-street, Cavendish-square, W., Dec. 22nd, 1913.

BIG GAME AND SLEEPING SICKNESS VERSUS MAN AND HIS ANIMALS.

To the Editor of THE LANCET.

SIR,—In letters on the above subject published in your columns Mr. Sheffield Neave and Dr. G. D. H. Carpenter query the statement of Professor J. L. Todd in his letter to THE LANCET of Nov. 22nd that "The situation is clear; big game, especially antelopes, are the reservoirs of, and Glossina morsitans is the carrier of, trypanosomes which cause fatal disease in man and animals." Both quote Taute's experiments as evidence against the interpretation which Dr. Kinghorn and I have placed upon our experimental findings in Africa—that a large proportion of the wild game harbour trypanosomes pathogenic to man and his animals. May I point out that the single experiment performed by Dr. Taute upon himself proves nothing beyond the fact that it is possible for a healthy human being to resist infection. There is certainly no justification for assuming from a solitary experiment of this kind that the trypanosome found by Kinghorn and myself in game and wild Glossina morsitans is other than the, at present, absolutely indistinguishable parasite known to infect man and domestic stock in Rhodesia and Nyasaland. Taute's observation merely affords an explanation of the fact that so comparatively few human beings are infected in these areas; in other words, that healthy human beings are able to a great extent to resist infection. This fact is not very astonishing when we remember that there is no case on record of man being infected by any of the common pathogenic trypanosomes of domestic stock, such as T. congolense, T. vivax, T. evansi, T. equinum, or T. equiperdum.

If experimental inquiry is to be conducted along these lines then one must insist that the work be carried out on a sufficiently large scale, and generalisations not made from a single experiment. As we have had to deal with what has up to the present proved to be an invariably fatal disease it was some time ago obvious that definite results could hardly be hoped for from experiments on human beings. It is not even permitted to make use of condemned criminals for such purpose.

The onus of proof lies with those who state that the trypanosome found by Dr. Kinghorn and myself in game and wild Glossina morsitans—identical as regards its morphology, pathogenicity, and development in the tsetse with the trypanosome found in man and his domestic animals—is not the human trypanosome. I have repeatedly urged that the only practicable means of obtaining information on this point as on several others, such as the dependence or not on game of Glossina morsitans for its existence and infectivity, is by carrying out the experiment to which Professor Todd refers in his letter.

Many of those who oppose an experiment of this kind being undertaken adopt the almost incomprehensible attitude that it is necessary to be sure beforehand that the hoped for results will certainly be obtained. In effect they say: "First prove that if the game in a certain district be exterminated either the tsetse will disappear or will become noninfective and then we will permit the experiment." If these results could be known beforehand obviously we need not trouble to perform the experiment, but might proceed at once to attack the game in the neighbourhood of human habitations situated in fly areas.

I am, Sir, yours faithfully,

WARRINGTON YORKE.

Runcorn Research Laboratory, Liverpool School of Tropical Medicine, Dec. 16th, 1913.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 29th Mr. Sheffield Neave writes: "Bruce's theory that T. rhodesiense is nothing else than T. brucei must carry great weight." I should like to point out that whatever T. rhodesiense may be, it is certainly not T. brucei. This name was first given in 1899 by Plimmer and Bradford to a trypanosome which was sent to this country from Zululand. This strain of trypanosome is still extant at Runcorn and in several of the European laboratories.

Sir David Bruce, working at a later period in Uganda, found in an ox a trypanosome which he described as T. brucei. As this Uganda trypanosome is quite different from the Zululand one, the rules of nomenclature will not permit of the name T. brucei being applied to it. The Uganda parasite is identical morphologically, and as regards pathogenicity in laboratory animals, with T. pecaudi and T. rhodesiense, so that if the name T. rhodesiense is to be dropped it must be in favour of the name T. pecaudi, which was the first applied to trypanosomes of this type, and not T. brucei. These points were clearly brought out in a recent communication to the Royal Society by Professor J. W. W. Stephens and myself.—I am, Sir, yours faithfully,

B. BLACKLOCK.

Runcorn Research Laboratory, Liverpool School of Tropical Medicine, Dec. 16th, 1913.

A WORD ON THE TREATMENT OF SYPHILIS BY SYRIAN QUACKS.

To the Editor of THE LANCET.

SIR,—Every medical man confesses that the treatment of syphilis by mercury is a long and tedious process. I am inclined to think that many of us fail to cure syphilis quickly, if we cure it at all, because we are so over-cautious as to giving large and effective doses. In the last few months I have had a chance to follow closely the line of treatment that is followed by quacks in this country and I was surprised at the short time in which they "cure" syphilis. Mercury is used in all cases. The patient is kept for the greater part of a week in a room, tightly closed, and is instructed to fumigate calomel and to keep the room at a uniform amount of saturation. The patient is allowed to leave the room for fresh air, but is indoors for the greater part of the time, and also sleeps in. If I am correctly informed by patients who have undergone this treatment, no cases experience more than slight salivation. At the end of a week the patient quits the fumigation treatment and for two other weeks is put on a diet strictly confined to bread and infusion of sarsaparilla—he is allowed to eat nothing else.

In the last two or three months I have seen several patients who have been relieved of their symptoms by no other means than this method, and they were "cured," they said, in about three weeks. Certainly, no symptoms of syphilis could be detected in the cases that I had brought to my attention, some of which had received treatment two or three years previously and since have not felt any symptoms of the disease. Might this not be good testimony, though it comes from unqualified quacks, to the efficacy of large doses of mercury in the treatment of this disease? I do not consider the fumigation method to be of especial value, except in this, that by it the patient gets large quantities of mercury, both through his lungs and through his skin, and he gets it constantly.

I am, Sir, yours faithfully,

K. S. KRIKORIAN.

American School of Medicine, Beirut, Syria.

REFLECTIONS BY A SICK SEPTUAGENARIAN.

To the Editor of THE LANCET.

SIR,—Having been recommended to rest in bed by my medical advisers I have tried to obey orders and I have in a measure carried out their instructions, and yet I confess I have for the first time discovered that *complete* abstinence from exertion implies the steady and continuous services of one nurse at least. So far fortunately I have not, or fancied I have not, required such unremitting attention.

In the course of an active professional life I have now had the first opportunity of perfect leisure, and have been able to indulge in a course of uninterrupted reading. After dosing myself with *belles-lettres*, biography, and fiction, with a little poetry thrown in, I have upon several occasions fallen back on medical current literature, and this is my excuse for troubling you on this occasion. No doubt there are many practitioners who keep themselves *au courant* with the medical literature of the day. On the other hand, there are to my knowledge others too busy—or so they think themselves to be; and these practically do not know what is going on in the larger world of science and practice, and in consequence are falling behind in the race of professional progress. Such a man "takes in" a medical paper or papers, and often does not even remove the cover! I have heard the story of a country doctor, in an interval of spare time, paying a visit to his neighbour. Walking in unannounced, to his dismay he heard a bullet whizzing past his head. To his startled inquiry as to this mode of reception he was told that his warlike friend was practising pistol shooting, his target for the nonce being the back numbers of a highly influential medical journal. To such vile uses may the best of literature be put!

But it is time to come to the point of why I am addressing you, or rather your readers—I wish to impress upon them, or more correctly some of them, how much they lose by not perusing, for example, your pages, and how they should order their lives so as to secure time for such study. Take The Lancet for four consecutive numbers and let me mention a few of the interesting tit-bits to be found in the one month—November. I shall take them at random. The first, and as it happens the best, is Mercier's address on "Heredity," sparkling with humour and full of sound sense, though I think he forgets the apophthegm as to the mothers of men of genius; and next that on "Hysteria" by Glynn, based as all such "prospects" should be on a carefully recorded past experience. The report by Davis and Hall on the intensely interesting question of "Typhoid Carriers," and the not less valuable remarks of Gowland Hopkins on "Diseases due to Deficiencies in Diet." Tubby's suggestive paper on "Nerve Surgery," also Cammidge's on "Diabetes," your review on Davenport's "Eugenics," and the leading article on "Housing in Dublin"—a problem on this side of St. George's Channel, alas! as well as in Ireland. To Insurance panelists the continuation of the valuable local inquiries by your highly capable contributor is enough to make the one week's issue interesting by itself.

Dr. Mott's able paper on the "Degeneration of the Neurone" should make the following number equally so, while Sir Dyce Duckworth's Liverpool address constitutes a timely warning against the adoption of jejune theories as applied in the practice of medicine. The subject of neurasthenia as dealt with in the issue for the last week of the month affords an excellent example of the value of the personal equation both as regards doctor and patient. An unprejudiced study of the combined wisdom of the leading London neurologists amounts merely to this—that not one of them can properly define the subject in debate further than agreeing that the nerve battery is "run down," though in most cases it cannot be said whether the defects have arisen from bad initial construction, from injury, or from failure in the supply of the chemicals required.

And now, to cease to be garrulous and become didactic, I venture to advise my medical brethren to take one forenoon out of the seven in bed, preferably on a Sunday, and post themselves up in the current literature of medicine, surgery, and obstetrics, as also in the pressing professional problems of the day.

I am, Sir, yours faithfully,

Dec. 29th, 1913. William Bruce.

*** Abraham Cowley supplies us with a quotation: "We grieved, we sighed, we wept; we never blushed before."—Ed. L.

THE PREPARATION OF THE MOUTH FOR OPERATIONS.

To the Editor of The Lancet.

Sir,—In reference to the case of cancer of the tongue and larynx removed by operation, and reported by Mr. W. S. Kerr in your issue of Dec. 20th, 1913, some ten years ago I saw in a London hospital nine consecutive cases of major operations about the tongue and floor of the mouth end fatally a few days after the operation. Death in each case was due to septic complications obviously caused by pyorrhœa alveolaris, which at the post-mortem examinations I observed to be present.

Shortly after this, in a further series of five cases, I was called in to prepare the mouth for the operation. This was done by the extraction *of all the teeth and stumps*, followed by antiseptic treatment of the wounds for a week or ten days (painting the surface of the gums with a 2 per cent. solution of iodine in rectified spirit twice daily is probably the best method). These five patients were alive and well three months after the major operation.

In my next case the patient absolutely refused to have all his teeth removed. He would only allow me to extract the loose ones. I carefully scaled and cleansed the remainder. He died about six days after the major operation from septic complications.

My experience since has confirmed me in my belief that if periodontal disease is present *even in a slight degree* the only safe course is *to extract every tooth* at least one week before the major operation. It should be remembered, too, that practically every hospital patient has pyorrhœa.

It is difficult to understand the attitude of the surgeon who takes infinite precautions to sterilise the area of operation before making a skin incision and who yet will perform an extensive operation in the mouth actually in the presence of pus.

I am, Sir, yours faithfully,

F. St. J. Steadman, M.R.C.S. Eng.,
L.R.C.P. Lond., D.P.H.,
Assistant Dental Surgeon to the West London Hospital, &c.
Wimpole-street, Cavendish-square, W., Dec. 20th, 1913.

AMŒBIC DYSENTERY?

To the Editor of The Lancet.

Sir,—The greater part of the medical profession in this country seem to be singularly blind to the possibility of their patients acquiring tropical diseases without going abroad, and yet we are all familiar with the fact that many tropical animals and plants become acclimatised and thrive here; there is nothing incredible, therefore, in the idea that the micro-organisms of tropical diseases may equally thrive in England and reproduce their specific diseases in this temperate climate. The following case may serve for an illustration.

At the end of last August, a man aged 30, consulted me as to diarrhœa, from which he had suffered continuously since childhood, at least 18 years. The stools were putty-coloured and varied between 5 and 15 a day. It had been difficult for him to carry on his business, and he was quite unable to join in social functions. He had during the worst attacks considerable pain and tenesmus, followed by bloody stools for a week at a time. During several years he had been treated by various eminent physicians. The diagnoses varied—"nervous diarrhœa," intestinal tubercle, and disease of the colon (needing operation) were a few out of many. One nasal specialist put the whole trouble down to post-nasal catarrh and wanted to remove part of the turbinated bone. The patient told me of many remedies which had been prescribed with no effect for more than a day or two.

A few months ago I had been discussing with my daughter, who practises in India, tropical dysentery and other intestinal cases. Bearing in mind what I had learned from her, I came to the conclusion that the case before me might be one of amœbic dysentery, and advised the patient to have a course of hypodermic injections of emetine hydrochloride. After a delay of several weeks he agreed; for six consecutive days I gave hypodermically ⅓ gr. of the salt each morning. After the second dose, on Oct. 16th, the stools dropped to one a day, and became normally coloured and formed. When the drug was left off after the six doses the improvement remained, and on only four occasions since has he had more than one evacuation in a day. Three days before the hypodermic injections were begun his weight when stripped was 9 st. 4 lb., now it is 10 st. 1 lb. It seems, therefore, as if a cure has been effected, and that probably the diagnosis was correct. The patient has never been out of Great Britain. My opinion is that the disease was acquired when he was living in Plaistow, Essex, either through contaminated food or water.

If, on the other hand, my diagnosis was wrong, then the treatment seems worth trying in other forms of obstinate diarrhœa, especially in cases where tubercle of the intestine is suspected. As a matter of precaution the patient has had six more hypodermic injections at intervals of three days, though no relapse has occurred. No other medicine has been used since Oct. 16th. The old name given to ipecacuanha by Helvetius, "radix antidysenterica," is more deserved than it ever was, now that the unpleasant effects of the remedy can be eliminated by the use of the alkaloid.

I am, Sir, yours faithfully,
VERE G. WEBB.
Dec. 25th, 1913.

INTESTINAL KINKS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Dec. 20th your correspondent, Mr. C. Hamilton Whiteford, has raised some very pertinent queries regarding the effects of angulation or kinking of the intestines. This subject has received so much attention lately that by many it is looked on almost as a fetish, invoked to explain all disorders, and the present mode in surgery is to introduce a new theory of cause and effect. Without apology, therefore, I conform to the general attitude, but ask leave to plead rather for the utility of peri-visceral adhesions. Abdominal veils and bands, in my opinion, are sometimes noxious, yet in many instances a helpful function may be exercised by their presence. A decade ago one heard that an all-wise Providence had provided the appendix, tonsils, and foreskin as appropriate trophies for the lesser surgeons; nowadays one imagines that the large intestine is the legitimate prey for their maturer years.

Nature does not always work viciously, and one must accept with caution the destructive pessimism of the over-zealous partisans of ileo-sigmoidostomy. Taking Mr. Whiteford's questions seriatim, I believe—

1. A band in itself may produce no symptoms of obstruction, either by angulation or by reducing the calibre of the gut. Normal kinks are found in the human intestine, and Keith has shown that 20 per cent. of fœtuses have aberrant accessory adhesions. How many cases endowed at birth with these present symptoms of stasis in infancy? The band may for a time exercise beneficial control, but afterwards become stretched and lax, allowing enteroptosis to occur, with stagnation of the fluid contents, and this effect is really due to non-efficient support; the useful fixation of the band is lost. It may by condensation and shortening drag upon a coil, pulling it up and causing angulation to such degree that stasis occurs. In some cases misfortune arises from the non-support of portions of intestine, which properly splinted in position by adhesions would not become displaced, while an adjacent part fixed by the band remained in the proper site. Lastly, the band may produce stasis by constriction. Where an adhesion has been present for a time and later shrinks, causing kinking or narrowing of calibre of the gut, I believe this to result from a sclerosis largely the effect of change during middle age, and resembling the hardening got in the connective tissues generally, as in the brain, eye, heart, arteries, or prostate. This I have named "condensation obstruction," a condition which might be avoided were the general youthfulness of the tissues preserved in some way. Note especially how volvulus tends to occur after middle life from shrinking of an adhesion pedicle approximating a loop of intestine at its base.

2. A kink may produce obstruction; on the other hand, a sheath or veil of adhesions may prevent it by preventing over-distension. I have at present in my wards a patient whose great intestine at operation showed a reticulated cicatricial mosaic exactly like the striæ albicantes after pregnancy, and suggesting a similar origin, coming on after alternate contraction and distension of the colon, causing slight tears and cracks which fill up with connective tissue. Such a cicatricial effect would exert centripetal pressure on the intestine, preventing over-distension and thus preventing stasis. This arrangement might be compared to the tartan envelope which encases the national instrument of Scotland, preventing the stasis of its melodies. Also the effect in causing enhanced velocity of the contents is as that in carcinoma of the rectum, where diarrhœa ensues when the natural ballooning is interfered with, and a portion of dilatable intestine is replaced by an immobile tube of solid cancerous tissue. Apart from obstruction or diarrhœa, or neither, a kink or adhesion may produce chronic or recurrent pain in the abdomen.

3. The bowel proximal to a kink may present no change, may be hypertrophied to overcome resistance, or may be dilated. Jordan's plates clearly show the latter effect. In cases of atonic dilatation look to the neuro-muscular regulating apparatus as well as to the muscular coats.

4. The radiographer might decide the question of other symptoms than those of obstruction or dilatation.

5. A kink in a portion of intestine drawn up to or beyond an incision in the abdominal wall is *not* proof that such exists in the passive state. On the other hand, I have seen a case of fatal intestinal paresis with definite kinking without adhesions of any kind causing it, the condition being entirely due to increased intravisceral pressure with sharp angulation at a flexure causing a collapse, much as happens when a goose quill is bent acutely.

I am, Sir, yours faithfully,
SPENCER MORT,
M.D., Ch.B. Glasg., F.R.C.S. Edin.
Edmonton, Dec 23rd, 1913.

IODINE IN THE DRESSING OF WOUNDS.

To the Editor of THE LANCET.

SIR,—I have recently returned from the Balkans after a year's absence. After leaving Adrianople, where I worked for three months, I was invited to join the fourth division of the Bulgarian army, as a medical officer, during the operations against the Greeks and Serbs, and I remained from the outbreak of war to the conclusion of the infamous treaty of Bucharest with the Bulgars.

During this period I saw and treated many fresh wounds by the iodine treatment, and can vouch for its wonderful efficacy. How often, however, does one see wet dabs used to swab out the wound prior to the application of iodine? Mr. H. F. Waterhouse and Mr. W. S. Fenwick have shown that in the preparation of skin by iodine the importance of keeping water away prior to the application is paramount.

Why I am asking you to publish this letter is not so much to recommend the dry treatment of wounds, but, after a really huge trial, to recommend the cleaning of the skin round the wound and even the wound itself with a 1 per cent. solution of iodine in benzene. This is far and away the finest cleansing method I have seen used or have used myself, and I think it was an important factor in the results obtained in the fighting in the Balkan States. I am, Sir, yours faithfully,

Sutton, Surrey. Edward S. Calthrop.

INSTRUCTION IN THE NATURE OF ALCOHOLISM.

To the Editor of The Lancet.

Sir,—Is it not time that the nature of alcoholism and its treatment should be taught more definitely in our medical schools? Whatever he may or may not see in practice, the general practitioner is always bound to meet with these unfortunate victims of alcohol. The question has been brought home to me during the last few years owing to the fact that I see so many patients—victims of pseudo-dipsomania—who have been advised by their medical attendants to limit their drink to a glass at meals—advice which is, of course, absolutely fatal. I do not blame them for a moment. I was never taught anything about alcoholism when I was a student, and I have no reason to suppose things are different now.

May I also call attention to another fatal error, which has, I am sorry to say, the authority of a well-known medical work on its side? Delirium tremens *is* induced by the sudden cutting off of alcohol in the case of a chronic alcoholic after prolonged drinking. It is *not* induced if the drinking bout is only of a few days' duration. Possibly the mistake arose from confusion of the two conditions.

I am, Sir, yours faithfully,
Hugh Wingfield, M.D. Cantab.

Welbeck-street, W., Dec. 17th, 1913.

THE NATIONAL MEDICAL UNION: THE LONDON PANEL.

To the Editor of The Lancet.

Sir,—In The Lancet of Dec. 27th you state that it is reported that the number of practitioners on the London panel in November last was 1458, of whom 88 were resident officers to institutions. You omitted to mention that 100 of these did not reside within the county, and are therefore counted twice over, once in their own county and once in the County of London, thus giving rise to the error that Mr. Lloyd George made when he informed us that the number of doctors on the panel was over 18,000. I am given to understand that the numbers probable are 14,000 panel and 17,000 non-panel. In any case we London men can certainly congratulate ourselves that out of 6300 names on the Medical Register only about 1300 have "eaten" their written words and are now servants of the London Insurance Com mittee. The National Medical Union is the nev non-panel federation. Its members have a higl standard of medical honour, and are men wh would sooner suffer financial loss than lower thei professional dignity.

It is, in my opinion, the duty of all non-pane men to join the union. The secretaries state "tha applications for membership are coming in wit encouraging and continuous volume."

I am, Sir, yours faithfully,
E. H. Worth, M.R.C.S. Eng.

Streatham, S.W., Dec. 27th, 1913.

THE PSYCHOLOGY OF RAILWAY ACCIDENTS.

To the Editor of The Lancet.

Sir,—Your leading article on the above subjec compels attention to a seriously frequent failure c human efficiency in the individual, condoned by hi associates, who obviously do not think they coul do the work better, nor that they should be asked t do it better. Are we, then, as Mr. G. K. Chesterto once asked with bated breath, losing our efficiency Or is it that we do not pay enough heed t our jobs? In the old days when people ha nothing to occupy them but their jobs the were proud of their jobs. Now when we hav got away from work we can read the paper we can go to moving pictures if in town, work on our allotments if in the country; have these other things getting between us and o work, and the boasted skill of the craftsman, t artist's sacrifice of the man to his work, comes longer forward, but one hears rather of successf evasion of duty and of victory over an employer- just the talk one used to hear long ago at schoc but then amongst irresponsible boys. What is be done? I suppose we can only each of us sho a good example of devotion to duty which sha leaven the whole lump, and by the medical profe sion the State will be saved, as Sparta by Tyrtaeu

I am, Sir, yours faithfully,

Victoria, B.C, Canada, Dec. 4th, 1913. W. E. H.

PS.—My best congratulations on your "reversio to type." The change is very acceptable.

A Munificent Bequest.—By the death of Mr. Geoffrey Charles Ansell, which took place recently, a large sum of money has become available for various charities under his father's will. Mr. Ansell, who was only 17 years of age, met with an accident in Switzerland some two years ago. The bequests include £50,000 to King Edward's Hospital Fund; £25.000 each to the National Society for the Prevention of Cruelty to Children and the Royal Society for the Prevention of Cruelty to Animals; £10,000 each to Charing Cross Hospital, Guy's Hospital, *the London Hospital, the Middlesex Hospital,* St. Bartholomew's Hospital, St. George's Hospital, St. Thomas's Hospital, and Westminster Hospital; £4000 each to King's College Hospital, University College Hospital, the Royal Free Hospital, the Great Northern Central Hospital, the Cancer Hospital, Fulham-road, the Brompton Hospital for Consumption and Diseases of the Chest, City of London Hospital for Diseases of the Chest, Royal Hospital for Diseases of the Chest, London Fever Hospital, London Lock Hospital and Rescue Home, National Hospital for Diseases of the Heart, Queen Charlotte's Lying-in Hospital, Royal London Ophthalmic Hospital, Royal Orthopædic Hospital, Hospital for Diseases of the Throat, Nose, and Ear, Royal Hospital for Children and Women, Hospital for Sick Children, Great Ormond-street, and the Victoria Hospital for Children. The ultimate residue of the estate is to be held in trust for London Hospitals.

THE NATIONAL INSURANCE ACT.

WORK OF THE MEDICAL REFEREES.

A REPORT has been presented to the London Insurance Committee with reference to the work of the medical referees lately appointed. About 30 Approved Societies had made use of the scheme, and over 700 applications had been dealt with. The following analysis was given in respect of 471 applications received to the end of October:—

—	Report of medical referee after examination.		Action where no examination was made.		Total.
	Capable.	Incapable.	Cases withdrawn.	Cases in suspense.	
Men	33	54	13	3	103
Women	175	113	63	17	368
Total	208	167	76	20	471

In the 76 cases withdrawn by Approved Societies examinations were arranged, but the insured persons failed to attend. In the majority of such cases they "declared off" from benefit. Of the 208 persons reported as "capable" of work 30 per cent. were originally furnished with certificates for debility, anæmia, weakness, &c., and 15 per cent. with certificates for rheumatism and dyspepsia. The reports did not show that any high percentage of these cases were malingerers, but that low vitality, lack of nourishment, and mental inertia were predisposing causes of "invalidism." The few cases of obvious malingering had generally been in respect of persons in receipt of low wages. The interpretation of "incapable of work" had presented some difficulties, and in some cases the referees had reported that though incapable of his usual work an insured person was capable of light work. The question whether pregnancy in itself should be regarded as incapacity also arose. The need for an extension of the drug tariff, to include such appliances as trusses, elastic stockings, and spectacles, became apparent in many cases. The number of cases in which incapacity was traceable to some extent to defective teeth was remarkable, especially in cases of rheumatism and dyspepsia. Many of the certificates of practitioners appeared to have been questioned because they did not indicate clearly the nature of the illness. Some discussion took place on the report, and it was decided to send a copy of the report to the Departmental Committee on Excessive Sickness Claims, with the proviso that no extension of benefit should take place without adequate financial assistance from the Government. It has been urged that pregnancy should be regarded as entitling to sickness benefit, and that extensions of the drug tariff in special cases should be possible.

NATIONAL MEDICAL UNION.

The Provisional Federating Council of the National Medical Union have formulated the following policy, viz:—

1. To maintain the freedom of the medical profession in its professional and personal relations with the public.
2. To support the public in maintaining a corresponding freedom and to safeguard the national health.
3. To oppose the present arrangements for medical benefits under the National Insurance Acts, and to decline professional service under such arrangements.
4. To preserve an independent attitude with regard to party politics.

They add that this is a preliminary statement only, and is intended to indicate the broad lines upon which the future policy of the Union will be evolved as soon as the present Provisional Federating Council have completed their duties of organisation. New non-panel associations have been formed, and the honorary secretaries of the Union state that many members from all parts of the country have been enrolled.

The Provisional Federating Council say that it is necessary to make it clear that the Union is an organisation pledged solely to non-panel interests. The offices are in the *Morning Post* Buildings, 346, Strand, London, to which address all non-panel practitioners who are in sympathy with the policy outlined are invited to write.

Medical News.

UNIVERSITY OF OXFORD.—The following degrees have been conferred:—

D

B

The following candidates have been approved in the undermentioned examinations:—

Diploma in Public Health.—Part II.: C. H. Browning, R. H. Deans E. T. H. Lea, T. J. Mackie, and H. K. Ward. Part I.: E. G.

F

I

Terry.

Second ... *Medica and Pharmacology.*—

H. E. ... beare, K. M. Dyott, A. G.

East, ... H. Got h, T. E. Micklem,

T. S. ... Jones O. B. Pratt, A. B.

... and H. St. H. Vertue.

... an, J. A. G. Sparrow, and C. W.

... *Health.*—A. C. Ballance, J. D. Batt,

... V. Dennis, R. S. A. Heathcote, G. T.

... Venables, W. W. Waller, and R. O.

Ward.

Medicine, Surgery, and Midwifery.—A. C. Ballance, E. W. Carrington, R. S. A. Heathcote, G. T. Hebert, E. W. N. Hobhouse, A. H. Southam, J. A. G. Sparrow, W. W. Waller, and C. W. Wheeler-Bennett.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred:—

... Vick, Jesus.

... F. H. Oliver, Caius.

At examinations held recently the following candidates were successful:—

THIRD EXAMINATION (*Old Regulations*).

... *Midwifery and Medicine.*—W. Prys-Stones, B.A.,

... n, B.A., Down-

... A., Pembroke;

... A., Emmanuel;

... Nangle, Caius;

... M. Postlethwaite, B.A., Emmanuel;

... Sparrow, M.A., and J. W. Stretton,

... B.A., Sidney Sussex; and F. W.

THIRD EXAMINATION (*New Regulations*).

Part I., Surgery and Midwifery.—D. C. G. Ballingall, B.A., Emmanuel; P. H. Berry, B.A., King's; W. G. Bigger, B.A.,

Trinity; ...

Trinity; and A. W. Uloth, B.A., Pembroke.

Part II.—E. J. Bradley, B.A., Jesus; J. Brewer, M.A., Emmanuel; E. H. P. Brunton, B.A., Trinity; E. N. Butler, B.A., Clare; J. Deighton, B.A., Trinity; G. D. East, B.A., Emmanuel; B. O. Ewens, B.A., Caius; A. R. Jennings, M A., Jesus; H H. Mathias, B.A., King's; P. W. Ransom, B.A., Pembroke; A. V. Stocks, B.A., St. John's; A G. G. Thompson, B.A., Pembroke; and R. L. M. Wallis, M.A., Downing.

University of London.—At examinations held recently the following candidates were successful:—

M.D. Examination.

Branch I., Medicine.—Thomas Beaton, Charing Cross Hospital; Wilfred E. Burrows, Middlesex Hospital; Hazel Haward Cuthbert, London (Royal Free Hospital) School of Medicine for Women; Reginald Robert Elworthy, Westminster Hospital; William Charles Fowler, University College Hospital; Geoffrey Hadfield, St. Bartholomew's Hospital; Robert Henry Hatten Jolly, Charing Cross Hospital; Cicely May Peake, London (Royal Free Hospital) School of Medicine for Women; Ernest Edward Andrew T. Rigg, Harry Dudley Rollinson, and Alfred Richard Spencer, University College Hospital; George Edgar Septimus Ward, Middlesex Hospital; and Gordon Reginald Ward, Westminster Hospital.

Branch III., Mental Diseases and Psychology.—Ralph Brown, University College and Westminster Hospitals; and Alfred Alexander Webster Petrie, University of Edinburgh.

Branch IV., Midwifery and Diseases of Women.—David John Harries, University College Hospital; Reginald Larkin, Guy's Hospital; and Arthur Arbuthnot Straton, St. Mary's Hospital.

Branch VI., Tropical Medicine.—Robert Kelsall, Victoria University of Manchester and London School of Tropical Medicine.

M.S. Examination.

Branch I., Surgery.—Harry Cecil Rutherford Darling, University College Hospital; and Ernest Frederick Finch, University of Sheffield.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

Society of Apothecaries of London.—At examinations held in December, 1913, the following candidates passed in the subjects indicated:—

Surgery.—S. de Moor (Section I.), Amsterdam; J. de Silva (Sections I. and II.), St. Mary's Hospital; R. B. F. Frazer (Section II.), Charing Cross Hospital; J. A. Prendergast (Sections I. and II.), Leeds; and D. Schonken (Section I.) and J. D. Schonken (Section I.), Amsterdam.

Medicine.—E. M. D. N. Baker (Sections I. and II.), Brussels; A. C. O. Brown (Sections I. and II.), Birmingham; H. V. Capon (Sections I. and II.), St. Bartholomew's Hospital; J. de Silva (Sections I. and II.), St. Mary's Hospital; and J. E. Taylor (Sections I. and II.), Leeds.

Forensic Medicine.—J. de Silva and G. L. Lawlor, St. Mary's Hospital.

Midwifery.—S. de Moor, Amsterdam; and J. de Silva, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—A. C. O. Brown, H. V. Capon, R. B. F. Frazer, J. de Silva, and J. E. Taylor.

Victoria University of Manchester.—At examinations held in December, 1913, the following candidates satisfied the examiners:—

Final M.B. and Ch.B.

O. R. Allison, Allan Barrett, Ada L. Bentz, W. R. Blore, F. S. Charnock, C. H. Crawshaw, H. N. Crossley, H. S. Gerrard, Cornelius Thompson, F. K. Tomlinson, C. H. Whittall, H. W. F. Williams, G. W. Wood, and W. H. Wood.

Medicine and Obstetrics.—H. C. Duffy.

Forensic Medicine and Toxicology.—J. E. Brooks, *E. A. Linell, W. A. Rogerson, J. R. Slack, *Henry Wilson, and W. H. Wood.

* Awarded distinction.

Third M.B. and Ch.B. Examination.

J. C. Bramwell, J. S. Chorlton, S. G. J. Dowling, *A. T. Gibb, J. D. Kenyon, J. G. McKinley, H. M. von Mengershausen, H. H. Stones, C. G. Todd, *Frank Vause, Louis Walton, and Richard Willan.

* Distinction in Pathology.

Pharmacology, Therapeutics, and Hygiene.—William Halliwell J. F. C. O'Meara, M. C. Paterson, and C. G. Todd.

Second M.B. and Ch.B. Examination.

*J. H. Albinson, J. D. Byrd, Hitchon Chadwick, W. P. Christopher, Richard Colley, E. W. Fish, Eva L. Glasier, Alice M. A. Holt, J. L. Leigh, B. L. Lloyd, R. L. Newell, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Dorothy Potts, Walter Stansfield, Brian Walley, and G. B. Wild.

* Awarded distinction in Anatomy.

First M.B. and B.D.S. (Part III.)

R. J. Allison, G. E. Hayward, Elizabeth C. Powell, and James Yates.

University of Liverpool.—At examinations held recently the following candidates were successful:—

Degrees of M.B. and Ch.B.

Second Examination.—Part A: N. J. Allan, M. Azer, R. Coope, A. J. B. Griffin, Amy Hodgson, Mary E. Illingworth, S. Pool, A. McK. Reid, and E. S. Stubbs. Part B: H. Garas (with distinction), A. G. McColl, L. Oldershaw, H. C. Roberts, and J. Rumjahn.

Final Examination.—Part I.: R. J. Minnitt, J. J. K. Pentony, and R. H. G. Weston. Part II.: H. G. Bywater and F. C. Wilkinson.

Degree of B.D.S.

Third Examination.—A. E. Meeson (with distinction).

Diploma in Dental Surgery.

Third Examination.—R. Baron and B. R. Townend.

Diploma in Tropical Medicine.

C. M. Austin, S. S. Banker, M. Carrasco, J. M. Clark, E. C. Hepper, I. O. K. Khaw, J. C. Noronha, E. O'Connor, A. B. Pestonji, E. A. Smith, S. D. Stewart, E. L. Wilbe, and H. F. Wilson.

University of Leeds.—At a Congregation of the University held recently degrees were conferred as follows:—

Bachelor of Medicine and Bachelor of Surgery.—H. L. Taylor (with second-class honours), L. H. Butler, W. D. A. King, and K. Menon.

The following pass lists are announced:—

Final M.B. and Ch.B.—Part II.: W. H. Lonen. Part I.: H. S. Bhalla, C. M. Gozney, H. S. Lockwood, C. H. Seville, and Jessie Smith.

Second M.B. and Ch.B.—Part II.: S. Adler, H. E. Charles, C. W. Dudley, Emily E. V. Glover, G. F. Hurst, W. O. Lodge, L. Mosses, J. H. Parker, N. Pick, M. Rosenewige, W. O. Rowden, P. Shillito, I. Silverstein, and C. H. Smith. Part I.: Jane Bamford, C. W. Dudley, Z. P. Fernandez, W. L. M. Gabriel, F. H. Goss, C. R. Knowles, I. Liberman, W. O. Lodge, M. Rosenewige, A. L. Telling, and F. Walton.

Diploma in Psychological Medicine.—W. Robinson.

Dental Examinations.

First B.Ch.D.—Part III.: G. R. Baxter.

Final L.D.S.—Part I.: H. V. Waddington and N. T. Williamson.

Foreign University Intelligence.—*Bonn:* Dr. R. O. Neumann, of Giessen, has been appointed t the chair of Hygiene, in succession to Dr. C. Ziegler, who i going to Freiburg, but will not enter upon his new dutie until after the termination of the winter session.—*Breslau* Dr. Josef Forschbach, *privat-docent* of medicine, has bee appointed Chief Physician of the Medical Policlinic.—*Frank fort:* A new municipal hospital for nervous diseases has bee opened at Köppern.—*Greifswald:* Dr. Paul Adloff, chie surgeon to the University Dental Clinic and *privat-docent* c odontology, has been granted the title of Professor.—*Strasburg:* Dr. Oesterle, professor in Berne, has been offere the chair of Pharmaceutical Chemistry, in succession to th late Dr. Schaer. Dr. G. Skeiner has been recognised a *privat-docent* of Psychiatry and Neurology.—*Tokio:* D Aoyama, dean of the Medical Faculty, on the occasion of h twenty-fifth year "jubilee" as a professor, has been electe an honorary member of the German Society of Nature an Social Science.

National Bureau for Promoting the Genera Welfare of the Deaf.—At the second annual meetin of this Bureau, which was held recently at 22, Uppe Brook-street, London, Mr. Leo Bonn, the President, i moving the adoption of the report, said that the yea 1913 had been one of exceptional activity and remarkabl results in all branches of work connected with th deaf, and alluded to the progress made by the Bureau a specially marked by the publication of Dr. J. Kerr Love's lectures on the Causes and Prevention of Deafness. These lectures had, he said, created universal interest, and a medical committee of the Bureau has now drawn up a series of practical proposals for the prevention of deafness, based upon their conclusions which the executive committee is considering. Mr. P. Macleod Yearsley, having said that Dr. Kerr Love had, by his devotion to the cause of the deaf child, raised for himself a monument of which any man might be proud, referred to the practical suggestions for the prevention of deafness, both hereditary and acquired, made by the medical committee of the Bureau, which had sent a deputation to the London County Council to enlist the sympathy of that body. This deputation, he considered, had nothing to complain of in its reception, and if an endeavour to arouse the recently formed Central Health Committee for London to a sense of duty to the deaf had not been quite so successful, that matter would probably come up again. Mr. Yearsley then dealt with the suggestions for the prevention of acquired deafness, especially with the necessity for appointing aural surgeons to fever hospitals, placing school centres for the treatment of ear diseases under specialists, and the notification of meningitis and syphilis, and gave it it as his sincere belief that if these suggestions were given practical form deafness might be made to pass away from amongst us, as Dr. Kerr Love had said, within the next three generations. The fight that was before them was a very strenuous and uphill one, not because there was opposition, but because there was so much apathy. He liked opposition, it strengthened one and could be dealt with like a boulder across the road—it could be moved or blasted away; but apathy was like mud, it clogged and clung, making progress terribly difficult. Mr. B. St. J. Ackers, Mr. F. G. Barnes, and the Rev. F. W. G. Gilby dealt with various aspects of the problems presented by the deaf population, and Dr. C. W. Saleeby moved a vote of thanks to the chairman.

ON Dec. 16th, at Buckingham Palace, Dr. James Forster, of Conisbro, was decorated by the King with the silver life-saving medal of the Order of St. John of Jerusalem for gallantry at the Cadeby mine disaster in 1912.

THE ANTHRAX COMMITTEE. — Sir Thomas Whittaker, M.P., has resigned the chairmanship of this committee, and Mr. W. Middlebrook, M.P., has been appointed chairman in his stead.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART.—The opening ceremony of the new hospital in Westmoreland-street, Marylebone, W., will be performed by H.R.H. Prince Arthur of Connaught, K.G., at 3.15 P.M. on Monday, Jan. 12th.

ROENTGEN SOCIETY.—The secretary asks that members of this society, the next meeting of which takes place on Monday, Jan. 5th, will note that the time and place of the meeting have been altered. The meeting, as advertised in our Diary of medical events, will take place at Middlesex Hospital, W., at 8.15 P.M.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Dec. 18th, 1913, Sir Francis H. Champneys being in the chair. A letter from one of the Board's examiners, asking the Board to reconsider its refusal to approve Mary Robinson for the purpose of training candidates for the Board's examination in practical work was further considered, also a communication from Dr. J. J. Buchan, medical officer of health for Bradford, on the same subject. The Board decided that the application be granted, but that the authorities of the Leeds Maternity Hospital be asked to satisfy themselves that the rules of the Board are being fulfilled with regard to pupils at Bradford, and that for the year 1914 the certificates of pupils at Bradford be countersigned by the authorities at Leeds. A letter was considered from a registered medical practitioner asking for approval to sign *pro hâc vice* an examination certificate on behalf of a candidate in respect of a portion of her cases. The Board decided that the application be granted. A letter was considered from the town clerk of Warrington asking the Board to restore to the roll the name of a woman which had been removed from the roll at her request on the ground of ill-health in 1910. The Board directed that the medical officer of health for Warrington be asked: (*a*) whether the woman in question is able to take temperatures correctly; (*b*) whether she does so in all cases attended by her, according to the rules of the Central Midwives Board; (*c*) whether her register was well kept while she practised as a midwife; and (*d*) what she has been doing since her resignation.—At a special meeting of the Board on Dec. 19th a number of midwives were struck off the roll, the following charges, amongst others, having been brought forward:—Attending confinements for the purpose of assisting an uncertified person who had been struck off the roll of midwives, to continue habitually and for gain to attend women in childbirth in contravention of Section 1 (2) of the Midwives Act; being unable to make use of a clinical thermometer, and consequently unable to take the temperature of patients as required by Rule E. 13; neglect to take the necessary steps to secure the cleanliness and comfort of the patient as required by Rule E. 11, leaving her after the confinement in a very dirty and neglected state, and failing to comply with Rule E. 7 (b); giving a false certificate and a false notification to the local supervising authority that the child was stillborn; a child suffering from inflammation of and discharge from the eyes from the fourth day, and so suffering during the residue of the midwife's attendance she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5); not keeping the register of cases as required by Rule E. 23; not habitually taking or recording the pulse or temperature of patients, as required by Rule E. 13; when called to a confinement, not taking the appliances and antiseptics required by Rule E. 2.

A CENTENARIAN.—The death has occurred at Symondsbury, West Dorset, of Mrs. Wilkins, in her 101st year.

SILVER WEDDING GIFTS TO CHARITY.—Mr. Lawrence Cotton and his brother, Mr. Clement Cotton, have each given £1000 to the Blackburn Infirmary for the purpose of endowing cots in celebration of their respective silver weddings.

LITERARY INTELLIGENCE.—Major W. S. Patton, I.M.S., of the King Institute of Preventive Medicine, Guindy, and Captain Francis W. Cragg, I.M.S., of the Central Research Institute, Kasauli, have just issued a textbook on "Medical Entomology," intended to meet the needs of medical, sanitary, and veterinary officers who have to do with diseases communicated to man and domestic animals by means of insects.

ROYAL INSTITUTE OF PUBLIC HEALTH.—A course of instruction for tuberculosis officers, school medical officers, and medical practitioners will be delivered during January, February, and March in the lecture room of the institute, 37, Russell-square, London, W.C., on Fridays at 5 P.M. The particulars will appear in our diary of the week, and further information may be obtained from the secretary, Mr. E. L. Ryley.

A COMPLETE SCHOOL CLINIC.—The council of the county borough of St. Helens, Lancashire, has established a fully equipped school clinic for the treatment of ear, throat, and eye defects, and also minor ailments. An X ray [illegible] l for the treatment of ringworm [illegible] nary tuberculosis. In the same [illegible] om the clinic, is a tuberculosis [illegible] nsulting-, waiting-, and dressing- [illegible] y for the examination of specimens. A sanatorium providing accommodation for about 60 cases of phthisis will be opened in the course of a few weeks.

ROYAL SUSSEX COUNTY HOSPITAL, BRIGHTON.—For some time extensive work has been going on at the Royal Sussex County Hospital, Brighton, in the construction of outside balconies, and the work having now been completed the balconies were formally opened on Dec. 17th last, following a special court of the governors. Three of the balconies on the west side have been given by the late Mrs. David Smith, widow of a former Member of Parliament for Brighton; the extension of the Overton ward balconies was provided by Mrs. William Jones, and the whole of the eastern balconies—at the Defflis, Egremont, Peel, and children's wards—were the gift of Miss Louise Sassoon. The president of the institution, Mr. C. R. Scrase Dickins, who declared the balconies open, thanked the donors who had given to the medical and surgical staff the means of helping their [illegible] speed.—At the same go [illegible] spend £4250 on structu [illegible] of the heating and hot water service, by which it is hoped to effect substantial economies.

ROYAL INSTITUTION.—The following are among the lecture arrangements at the Royal Institution before Easter:—Professor W Bateson, Fullerian professor of Physiology, Royal Institution, six lectures on Animals and Plants under Domestication. Dr. W. McDougall, two lectures on the Mind of Savage Man (illustrated by the Pagan Tribes of Borneo): (1) His Intellectual Life; (2) His Moral and Religious Life. Professor C. F. Jenkin, three lectures on Heat and Cold. Dr. C. W. Saleeby, two lectures on the Progress of Eugenics: (1) The First Decade of Modern Eugenics, 1904–14; (2) Eugenics To-day, its Counterfeits, Powers, and Problems. Dr. J. A. Harker, two lectures on the Electric Emissivity of Matter: (1) The Metals; (2) Other Substances (with experimental illustrations). Professor Sir J. J. Thomson, professor of natural philosophy, Royal Insti-

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Honorary Radiographer, Surgeon Laryngologist, and [illegible]. Also House Physician at Northwood. Salary [illegible] Queen-[illegible]

NORTH KENSINGTON SC[illegible] Officer. Salary £50 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Female House Surgeon for six months. Salary at rate of £100 per annum, with apartments, board, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Also Assistant. Salary £220 and £180 per annum respectively, with apartments, &c.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, [illegible]ndry.

NOTTS COUNTY COU[illegible] Sherwood Forest, Mansfield.—Resid[illegible] £100 per annum, with board, residence, and laundry.

PERTH DISTRICT ASYLUM.—Assistant Physician. Salary £150 er annum and all found

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—Pathologist. Salary £150 per annum.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

ROCHDALE INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Clinical Assistants in Out-patients' Department.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant Physician.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer for six months. Salary at rate of £70 per annum, with residence, board, and laundry.

ST. THOMAS'S HOSPITAL.—Ophthalmic House Surgeon.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c.

SHEFFIELD, CHILDREN'S HOSPITAL, Western Bank.—House Surgeon. Salary £100 per annum, with board and residence.

SHOREDITCH INFIRMARY, Hoxton-street, N.—Junior Assistant Medical Officer Salary £150 per annum, with board, apartments, and washing.

SOMERSET COUNTY COUNCIL.—Assistant School Medical Officer. Salary £275 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Third House Surgeon. Salary £125 per annum, with board, washing, and attendance.

TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician and House Surgeon for six months. Salary £40, with board, lodging, and laundry.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

WARWICK COUNTY ASYLUM, Hatton, near Warwick.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WILLESDEN URBAN DISTRICT COUNCIL.—Assistant Medical Officers of Health and Assistant School Medical Officers (two). Salary £300 per annum each.

WILTS COUNTY ASYLUM, Devizes.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, attendance, and laundry.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WORCESTERSHIRE COUNTY COUNCIL.—Two Assistant Tuberculosis Officers. Salary £300 per annum.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Sowerby Bridge, in the county of York; at Warminster, in the county of Wilts; and at Worthing, in the county of Sussex.

*** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of THE LANCET.

Births, Marriages, and Deaths.

BIRTHS.

BECK.—On Dec. 21st, 1913, at Bromyard, the wife of Ashton Beck, M.B., of a daughter.

DEANE-BUTCHER.—On Dec. 24th, 1913, at Pittsworth, Queensland, to Dr. C. B. and Mrs. Deane-Butcher, a son.

GUNN.—On Dec. 18th, 1913, at Neston, Cheshire, the wife of George Gunn, M.D., F.R.C.S.E., of a son.

DEATHS.

FLEMING.—On Dec. 22nd, 1913, suddenly, Alexander John Fleming, M.D.

THORNTON.—On Dec. 28th, 1913, at Berkeley Lodge, Trinity-square, Margate, Bertram Thornton, M.R.C.S., L.R.C.P., in his fifty-seventh year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

NOTES ON DIARIES.

A GOOD diary is essential to most people, and especially to medical practitioners, and both Messrs. Cassell and Co. and Messrs. John Walker and Co. provide a wide selection suitable to all tastes and for all purposes. Both firms include with their diaries an insurance coupon for £1000, the coupon being made valid on payment of a small registration fee. So excellent are the productions of these firms that the only difficulty in making a selection is the wide choice which is given to the purchaser. Messrs. Cassell and Co. publish the "Letts's Diaries and Calendars," the sizes varying from two to three inches square up to quarto and foolscap size interleaved scribbling diaries. The bindings are of leather or cloth according to price, which ranges from 6*d.* upwards. They are ruled for one day to a page, two days to a page, seven days to a page, or a week in an opening.

We call special attention to the two following diaries:—

Letts's Medical Diary for 1914, which, in addition to the usual postal and general information and almanacs fo 1913 and 1915 as well as for the current year, contains great deal of matter useful to medical men. The pages o the diary are ruled on the plan of a week to an opening with spaces for patients' names, visits, and ledger folic Ruled pages are provided for accounts and for various pro fessional engagements. The diary can be had in two sizes ruled respectively for 54 or 108 patients, and the pric varies, according to the binding, from 2*s.* 6*d.* to 4*s.* an from 4*s.* to 5*s.* 6*d.* respectively.

Letts's Nurses' Report Book and Diary for 1914 shows i the diary a week to an opening, and contains an almana and general information. There are also double-pag ruled openings with columns for recording the vario duties and observations incidental to nursing. Blan lettered pages are also provided for an index. The pri is 2*s.*, neatly bound in red cloth.

Messrs. John Walker and Co.'s large selection includ their convenient and well-known loose-leaf diaries, made i different sizes, bound in morocco lined with leather, an with or without pockets. These diaries are suitable to a purposes, and will be found particularly useful by medic men and students (prices 2*s.* 9*d.* to 9*s.* 9*d.*). Re-fills can b obtained at a cheap rate. The other diaries issued by thi firm in sizes from 2 inches by 3 inches and upwards, an with one or two days or a week to a page, or a week t an opening, are bound in cloth or leather of varying kind according to the price (9*d.* to 8*s.*).

Both Messrs. Cassell and Co. and Messrs. John Walker and Co. also publish some useful wall calendars.

The Cambridge Pocket Diary, 1913-1914 (London and Cambridge: the University Press), is unique as a diary, inasmuch as it has been arranged for the academical year, and therefore covers in part two calendar years. It is in size suitable for the waistcoat pocket, and contains information of interest to Cambridge men and also to others in academical and legal circles. The price, according to binding, varies from 1*s.* to 2*s.* 6*d.* net

The Cambridge Diary for the Academic Year, 1913-1914, is also issued by the same publishers, price 1*s.*, in block form, each sheet measuring 8 inches by 10 inches. Ample space is afforded for manuscript notes or engagements.

The Wellcome Photographic Exposure Record and Diary, 1914 (Burroughs Wellcome and Co. Pp. 280. Price 1*s.*), besides being a useful diary, forms a concise guide to photography. Both the beginner and the expert will find the contained information, as well as the ingenious exposure calculator included with the book, of great value Three editions of the diary are published: one for the northern hemisphere, one for the southern, and one for the United States of America.

Amateur Gardener's Diary and Dictionary (London: Office of *Garden Life*. Pp. 277. Price 1*s.*) is published in a stiff paper cover, and is a handy calendar and guide for gardeners. It contains, in addition to a useful dictionary of gardening, notes on the weather and the work to be done in the garden and greenhouse during each week of the year.

The Live Stock Journal Almanack, 1914 (London: Vinton and Co., Limited. Pp. 344. Price 1*s.*; cloth 2*s.*), contains besides the diary and breeders' table and the usual general information, articles of interest to stock-raisers, with much information about stock, agricultural societies, fairs,

and a breede
Animals, by Insect Pets
and Live-stoc will be of
interest to veterinary surgeons

Wright's Improved Physicians' and Surgeons' and Consultants' Visiting List, compiled by ROBERT SIMPSON, L R C P, L R.C S. (Bristol: John Wright and Sons, Limited; London · Simpkin, Marshall, and Co), in addition to the
usual postal and
for the visiting
a manner to co
for professional
motor expenses
tables giving such information as the professional man may at times require at a moment's notice The *Visiting List* is bound in leather, with pockets in the covers and a *pencil in the fold of the flap It is issued in two forms*—as
a yearly diary and as a bool
any time and used continua
first form varies from 5s. t
of patients' names it will
second form is published at 5s. 6d.

MARTIAL AND MEDICINE.

To the Editor of THE LANCET.

SIR,—It has for over 15 years been one of my most fascinating amusements to see
the classical authors, both
also from medieval Fren
having interest from a med
of which have at various
scarcely refer, therefore,
Raymond Crawfurd's arti
THE LANCET of Dec. 6th. From Martial I have one not referred to by Dr. Crawfurd. It is I 19:—

Si memini, fuerant tibi quattuor, Aelia, dentes;
Expulit una duos tussis et una duos.
Iam secura potes totis tussire diebus,
Nil istic quod agat tertia tussis habet.

If I remember aright, your teeth were but twice two in number.
Two you spat out in a cough, another cough robbed you of two
Now you may cough all day long with a mind that no fears can encumber,
For surely 'tis clear as can be there is nought for a third cough to do.

I venture also to append renderings of two of the passages quoted by Dr. Crawfurd. The first is of the Epigram to Symmachus (V., 9), and was published five or six years ago in the *Boston Medical and Surgical Journal* —

When, out of sorts, I send an urgent call,
You come forthwith, good Symmachus, with all

Has frozen stiff. And thus it comes at last
That while before no fever I endured,
'Tis of a fever I must now be cured

The second of that to Aulus (VI, 78), published still further back in the *New York Medical Journal*.—

Phryx, good friend Aulus, of one eye had lost
The use, and in the other was dim sighted.
His doctor, Heras, said, "Count well the cost
Of drinking, if you drink, your vision's blighted."
Phryx, smiling, bade his eye a mock farewell,
And ordered flagons deep as quick as winking,
One after one. Shall I the sequel tell?
While Phryx the wine, the wine his sight, was drinking

Finally, as your correspondent Mr. Edwin A. Eade (THE LANCET, Dec. 13th) did not send a translation of the Epigram on Zoilus (II., 16), may I add this?

So Zoilus is sick abed, and with a fever too!
His coverlets have caused it. Were he well
What would his scarlet trappings and his Nile couch find to do?
What story dyes from fragrant Sidon tell?

How could he, save by illness, all his opulence display?
To get well the way is easy to divine—
The doctors cannot help him; let him send them all away
And exchange his gorgeous coverings for mine.

I am, Sir, yours faithfully,
Dec. 30th, 1913. KENNETH W. MILLIGAN.

THE SMALLEST MAN IN THE WORLD.

Mr. John William White, who has been described "as the shortest man in the world," died at Southend on-Sea, Essex, on Dec. 26th, 1913. He was 53 years old, and only 21 inches in height, and was thus shorter than "General" Tom Thumb. A portrait of Mr. White appeared in the *Daily Mirror* of Dec. 29th, and those who wish to make comparisons with Tom Thumb (whose real name was Charles S Stratton, and who is said to have been born at Bridgeport, Connecticut, America, on Jan 11th, 1832) will find a portrait of him and his wife (*née* Warren) in THE LANCET of June 30th, 1900, p 1868 An account of
Tom Thumb's er dwarfs
will be found "Giants
and Dwarfs," Richard
Bentley, New

ASTROLOGY IN MEDICINE.

To the Editor of THE LANCET.

SIR,—I am loth to trespass again on your valuable space, but with your kind permission I wish to express my regret to Dr. Mercier that I misunderstood the following sentences found in the excellent abstract of his lectures given in THE LANCET of Nov 29th (p 1527) —

"It is interesting to carry our minds back with a view to finding how the system originated and how it was maintained. The first was explained by the overwhelming power of authority, the last by the geocentric belief that was overthrown by Copernicus"

I considered, not very unnaturally, that in the last 11 words of that extract it was implied that Copernicus was credited with the overthrow of astrology. Dr Mercier having now declared that he did not call it an argument, I withdraw my

I should lil eply to Dr.
Mercier's sati that I have
always unders s that when
coincidences constantly recur with such regularity and frequency as to remove them from the confines of chance, they prove that the two things which coincide are either cause and effect or the result of a common cause If so, then by observing a long series of coincidences we may be able to discover a natural law 1345 was, I believe, a year of pestilence It may have been that Black Death first appeared in 1346, in Europe, Asia, and Africa—a veritable pandemic. Even so, although it was the year after the occurrence of that rare conjunction of Saturn, Jupiter, and Mars—attended by Neptune—in the sign Aquarius, it should be remembered that Saturn takes about two years and a half to pass through a sign of the zodiac—his period being 29½ years. on the atmo
sphere was still d Vernlam)
observed that th slowly into
operation."

I will conclude with quoting the declaration of the really great Kepler that: "A most unfailing experience of the excitement of sublunary natures by the conjunctions and aspects of the planets has instructed and compelled my unwilling belief." I am, Sir, yours faithfully,
Dec. 22nd, 1913 ALFRED J. PEARCE.

*** This correspondence now ceases.—ED L

"AN OPERATING THEATRE IN PRIVATE PRACTICE"

To the Editor of THE LANCET.

SIR,—In regard to the book published by us under the above title for Mr Whiteford, in response to requests a

INCOME-TAX DEMANDS.

To the Editor of THE LANCET

SIR,—The collectors of taxes are now making their annual
for the current year. Before
you
is
ons
e that they are not paying
nd-tax for which they are not

be claimed for the three
applies, of course, more especially to income derived from
investments, house pr laims
in respect of life ass ances
for children under 16
NCY.

386, Oxford-street, London, W., Dec 27th, 1913

DR STEEVENS' HOSPITAL, DUBLIN.

To those having special Dr Steevens'
Hospital, Dublin, Dr. T lar
of Anniversaries will doub of
each month has some it of

Dr. J. C. McWalter, Dublin; Mr. G. E. Mould, Rotherham; Dr. R. Miller, Lond.; Manchester Royal Infirmary, Secretary of; Messrs. Macmillan and Co., Lond.; Mr. E. Marett, Jersey; Dr. C. H. McComas, Dorking; Mr. H. F. Mole, Clifton; Maltine Manufacturing Co., Lond.; Medical Graduates' College and Polyclinic, Lond., Secretary of; Macclesfield General Infirmary, Secretary of; Matthew's Advertising Service, Lond.; Messrs. Meister, Lucius and Brüning, Lond.

N.—Mr. Edward Nundy, Lond.; National Health Insurance Com[illegible] Secre[illegible] Union, Lond.; Mr. R. Nath, Talagang; "Novitas" Publishing Office, Paris; "Northern," Liverpool; New Pegamoid, Ltd., Lond.; Nottingham Children's Hospital, Secretary of; Notts County Council, Nottingham, Clerk to the; National Bureau for Promoting the General Welfare of the Deaf, Lond.

O.—Mr. W. H. O'Meara, Carlow; Mr. Joseph Offord, Lond.; Mr. E. Owen, Lond.; Dr. Ormond, Leatherhead.

P.—Dr. Owen Paget, Fremantle; Mr. John J. Pickles, Leeds; Mr. J. W. S. Purves, Mundesley; Mr. H. E. Pridham, Pymble; Philmar Co., St. Louis; Dr. Paterson, Glasgow; Dr. A. M. Pollock, East London, S.A.; Messrs. Peacock and Hadley, Lond.; Messrs. Parke, Davis, and Co., Lond.; Mr. W. T. Partridge, Lond.

R.—Mr. B. A. Rigby, Frodsham; Messrs. Reynolds and Branson, Leeds; Royal Academy of Medicine in Ireland, Dublin; Mr. A. Ad. Ramseyer, Salt Lake City; Mr. O. Rothacker, Berlin; Royal Halifax Infirmary, Secretary of; Messrs. Roberts and Co., Lond.; Royal Society of Medicine, Lond., Secretary of; Royal Hospital, Richmond (Surrey), Secretary of; Royal Portsmouth Hospital, Secretary of; Royal Devon and Exeter Hospital, Secretary of; Royal Mineral Water Hospital, Bath, Secretary of; Messrs. Richardson and Co., Lond.; Royal Albert Institute, Lancaster, Secretary of; Royal Medical Benevolent Fund, Lond., Hon. Secretary of.

S.—Major H. S. Lefroy Stein, Monkstown; Dr. F. N. G. Starr, Toronto; Dr. John Stewart, Halifax, N.S.; Mr. J. O. Skerrington, Windsor; Mr. P. L. Swen, Tsitsika; Dr. F. Smith, Lond.; Dr. R. A. Stirling, Carlton; Dr. H. E. Smith, Lond.; *St. Paul Medical Journal*, St. Paul, Manager of; St. Andrew's Hospital, Northampton, Secretary of; Mr. A. Skeffington, Lond.; Swansea Hospital, Secretary of; Dr. C. G. Kaye Sharpe, Luton; Messrs. W. H. Smith and Son, Windsor; St. Paul's Hospital, Lond., Secretary of; Dr. H. K. Smythe, Telukwe; Messrs. Smith, Elder, and Co., Lond.; Messrs. Spiers and Pond, Lond.; Scarborough Hospital and Dispensary, Hon. Secretary of; Messrs. H. Sotheran and Co., Lond.; St. Andrew's Hospital, Lond., Secretary of; Dr. J. Barclay Stewart, Haslingden; Mr. P. A. Steedman, Oxford.

T.—Dr. J. M. Twentyman, Lond.; Mr. W. L. Thompson, Ventnor; Mr. G. Grey Turner, Newcastle-on-Tyne; Mr. J. Thin, Edinburgh; Dr. D. Tiraterra, Viterbo; Messrs. J. and J. Taunton, Lond.; Dr. R. G. Thomson, Haworth; Messrs. Thacker and Co., Lond.; Dr. J. Teare, Southampton; Tunbridge Wells Council, Accountant to the; Dr. James Taylor, Lond.

U.—University College Hospital Medical School, Lond., Director of Pathological Studies and Research of.

W.—Dr. G. T. Wrench, Delhi; Mr. J. P. Williams, Tenom, B.N.B.; Dr. J. Watson, Liverpool; Willesden Urban District Council, Lond., Clerk to the; West Kent General Hospital, Maidstone, Secretary of; "Warner," Bromley.

Y.—Messrs. R. Young and Co., Glasgow; Yost Typewriter Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Agent-General for Queensland, Lond.; Ahmedabad Medical Society, Hon. Secretary of; Mr. T. Atkinson, Brading, Dr. G. Arthur, Lond.; Apollinaris Co., Lond.; Dr. J. V. Arkle, Kalgoorlie; Dr. J. E. Adams, Lond.; Mr. C. W. Allan, Lond.; Mr. S. F. d'Azevedo, Oporto; Dr. P. S. Abraham, Lond.; A. M. P.

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C.—Mr. G. L. Cheatle, Lond.; Dr. W. F. Croll, Aberdeen; Mr. P. C. Coombes, Knapp Hill; Dr. R. H. P. Crawfurd, Lond.; Messrs. Clarke, Son, and Platt, Lond.; Dr. T. Coomber, Lond.; Mr. J. S. Caine, Des Moines, U.S.A.; Dr. G. Cunningham, Bexley Heath; Dr. D. A. Campbell, Halifax; Messrs. Child and Wainwright, Winchester; Mr. J. Chronnell, Hindley; Dr. J. C. Connell, Kingston; Dr. E. Carmichael, Edinburgh; Dr. F. J. Cruise, Baltinglass; Mr. E. Collins, Sawbridgeworth; Dr. Carver, Torquay; Dr. J. A. Clarke, Chicago.

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S.—Lieutenant J. L. Sen, I.M.S. Dehra Dun; Mr. D. N. S Midnapur; Mr. E. M. S wick, W[illegible] Hartlepool; [illegible] W. H. Smith [illegible] Mr. F. W. S[illegible] Southampton Free Eye Hos[illegible] Secretary of; Mr. J. P. S Lowestoft; Mr. G. Simps Devizes; Dr. H. G. Stacey, Le Mr. F. St. J. Steadman, L Messrs. W. H. Smith and S [illegible] Sanitary Wood Wool Co., L Dr. P. C. Smith, Lond.; Mess Scheltema and Holkema, Amste dam; Mr. A. Spong, Torquay Dr. B. H. Spilsbury, Lond.; R. H. Shaw, Great Yarmou Dr. W. W. Smith, Lond.; W. H. Seed, Preston; M Stephenson, Lond.; St. Bart mew's Hospital Library, L Librarian of; Saarbach's Exchange, Lond.; Dr. Batty S Lond.; Mrs. Salmon, Willi South Devon and East Cor Hospital, Plymouth, S of; Mr. A. Stenhouse, G Messrs. W. H. Smith and Lond.; Dr. J. Saffley, Ar Scholastic, Clerical, and M cal Association, Lond.; Me Stevens and Brown, Lond.; W. J. Sheppard, Lond.; M Scott and Bourne, Lond., Smith, Plumstead; Mr. W Sheehey, Lond.

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Y.—Dr. J. Young, Lond.

Observations
ON
PROPHYLACTIC INOCULATION AGAINST PNEUMOCOCCUS INFECTIONS,
AND ON THE RESULTS WHICH HAVE BEEN ACHIEVED BY IT.[1]

BY SIR ALMROTH E. WRIGHT, M.D., F.R.S.,
IN CONJUNCTION WITH
W. PARRY MORGAN, M.B. CANTAB., L. COLEBROOK, M.B. LOND., AND R. W. DODGSON, M.D. LOND.

(Concluded from p. 10.)

SECTION IV.—*Results Obtained by Therapeutic and Prophylactic Inoculation of Pneumococcus Vaccine.*

WE have now completed the setting forth of the work which we did in connexion with the investigation of the antibacterial effects exerted by the [illegible] ting and [illegible] it. We [illegible] ch were obtained when we passed from laboratory work to actual phylactic and prophylactic inoculation. We may begin with the former.

Treatment of Pneumonia by Vaccine-therapy.

It will be well to realise at the outset under what disabilities of ignorance we here pursued our work. The methods of blood examination which so often disappointed us when we were endeavouring to compare from day to day the opsonic power of the inoculated with that of the uninoculated natives, left us quite in the lurch when we set ourselves to make similar daily measurements in the case of our pneumonia patients. We were unable to trace upon the 50 immunisation curves which we plotted out in connexion with this work the effect of the doses of vaccine which we administered.

Accordingly, from first to last, we had to guide ourselves in our choice of doses and of the intervals between our doses only by *a priori* considerations and by the uncertain and flickering light which is furnished by temperature charts and the clinical symptoms. Influenced by the anticipation that the infected natives would be much more sensitive to pneumococcus vaccine than the uninfected native, we employed only doses of 2½ to 50 millions of pneumococci, and we conformed to the principle of giving in the less serious conditions larger, and in the more serious ones smaller, doses. In the ordinary case we repeated the dose at intervals of 24 to 48 hours.

These experiments—they have only the value of [illegible] patients. Many of these were, when admitted to hospital, already in an advanced stage of pneumonia. We accepted for our experiments only those who presented quite typical physical signs, and these were taken for treatment by vaccine-therapy or for treatment by the expectant method alternately, and strictly in the order in which they were admitted to hospital. We took for every uninoculated patient who was treated by vaccine-therapy an uninoculated control, and for every inoculated patient an inoculated control.

As the net effect of our treatment, we obtained the results which are set out in the subjoined table:—

TABLE XI.—*Showing the Case Mortality of Pneumonia in Tropical Natives treated respectively by Repeated Small Doses of Pneumococcus Vaccine and by Expectant Methods.*

Therapeutic method employed.	Number of cases.	Number of deaths.
Vaccine therapy	159	50
Expectant treatment	149	48

We would in connexion with these results specially emphasise (1) that they apply only to tropical natives who, having a very low power of resistance, have contracted virulent infection; and (2) that they apply only to inoculations carried out on such natives with the doses specified above.

What we have to say in connexion with the prospects of therapeutic inoculation in pneumonia will be better deferred till we come to summarise and comment upon the results obtained by inoculation.

Prophylactic Inoculation against Pneumonia.

We pass now to study the results which were obtained by prophylactic inoculation. The inoculations which we carried out or initiated range themselves under six mass-experiments.

Mass-experiment No. 1.—This mass-experiment was undertaken in the compound of the Witwatersrand Native Labour Association. This compound, familiarly known as the W.N.L.A. Compound, is, as has already been briefly explained, the receiving station at Johannesburg where the gangs of native labourers, who are recruited for the general service of the mines, are housed for three to four weeks before they are drafted off to their respective mines.

We confined our operations in this and the four next mass-experiments to the tropical natives. For it is especially these who are ravaged by pneumonia. In each case, two or three days after the arrival of a new gang, the natives were lined up. We then, dismissing any who showed symptoms of illness inoculated as they filed past us every alternate man, reserving in this way half of each gang to serve as controls. As the men came up to us the inoculated were made to pass on one side, and the uninoculated on the other; and lists were made of the depôt numbers of the two groups—each man's identification docket being at the same time ruled across with a diagonal line, which was red or blue according as he was inoculated or reserved as a control. After the lapse of eight to ten days the natives were again ranged up, and every man who had on the first occasion been inoculated was now reinoculated, while the controls were still kept as controls. The red or blue diagonal line on each man's docket was at the same time converted into a red or blue cross, and a corresponding entry was made upon the lists.

Proceeding in this manner between the months of October, 1911, and April, 1912, with each gang of tropical native labourers as it arrived, we inoculated a total of 5963 and reserved 5671 to serve as controls.

The doses which were employed varied with each gang and subgroup—for we were, as has been indicated above, engaged in following out from day to day the *effect exerted* on the blood by different doses and different schemes of administration. The average amount of vaccine given in the two successive inoculations taken conjointly was something like 300 millions of pneumococci. It in no case exceeded 600 millions.

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[1] Being Part II. of a Report t[illegible] and 21st (p. 1101), 1912.

The results of the inoculations are furnished, so far as relates to the three or four weeks dating from the first inoculation, in the register of pneumonia cases and deaths kept in the hospital attached to the W.N.L.A. Compound. The clinical diagnosis was in each case made by the medical officer, Dr. George A. Turner, or the assistant medical officer, and by one of us (W. P. M.). In the fatal cases the cause of death was controlled by post-mortem examination carried out by the medical officer.

Information with regard to the subsequent history of the inoculated and uninoculated is furnished in two sets of returns. We have, first, the special monthly returns made to us from the mines—the so-called *red and blue monthly returns*. These record the number of cases of pneumonia and deaths from pneumonia occurring respectively in the red and blue group of tropical natives. We have, secondly, the returns of deaths, and specifically of deaths from pneumonia, rendered thrice monthly from the mines to the Chamber of Mines for the information of Government.

The "red and blue" returns proved unserviceable for our purpose, inasmuch as the depôt numbers of those who contracted, and died from, pneumonia were not supplied, and *also because* the results applying to the separate gangs were not kept apart. The Government returns, since they furnish the depôt numbers of those who succumbed to pneumonia, are those we depend upon for the later results set forth in the table below. The results of the mass-experiment, ascertained as explained above, are as follows:—

TABLE XII.—*Showing the Number of Pneumonia Cases and Deaths from Pneumonia which occurred in the W.N.L.A. Compound between the Date of the First Inoculation and the Departure of the Natives to the Mines.*

—	Number of men in the group.	Cases.		Deaths.	
		Number.	Percentage.	Number.	Percentage.
Inoculated	5963	147	2·6	50	0·83
Uninoculated ...	5671	198	3·5	87	1·53

TABLE XIII.*—*Showing the Number of Deaths from Pneumonia reported from the Mines in each successive Month.*

—	Number of men in the group.	Second month.	Third month.	Fourth month.	Fifth month.	Sixth month.
Inoculated ...	5963	11	19	12	10	7
Uninoculated...	5671	29	19	15	13	8

It will be seen that the inoculation exerted a marked effect for two months, but that after the end of the second month the inoculated had no advantage over the uninoculated.

To obtain the measure of the total effect of inoculation on the death-rate from pneumonia we may combine the figures for the deaths in Tables XII. and XIII.

TABLE XIV.—*Showing the Effect which was exerted upon the Death-rate from Pneumonia in the first Two Months after Inoculation.*

	Number of men in the group.	Deaths.	
		Number.	Percentage.
Inoculated	5963	61	1
Uninoculated ...	5671	116	2

Mass-experiment No. 2.—After Mass-experiment No. 1 had been in progress for a certain time, and after it had appeared from the returns that favourable results were being obtained, we endeavoured to procure larger figures, such as would be really serviceable for statistical purposes, by undertaking "general inoculations" at the mines. We accordingly in December, 1911, and January, 1912, organised and ourselves took part in a number of "general inoculations" at the mines, and Dr. Turner, who helped us in this work, afterwards took independent charge of a number of others. We compute that in all 20,000 to 30,000 natives were in this way inoculated. Our intention was that the inoculated and the controls should, in connexion with these inoculations, have been chosen and registered in exactly the same way as had been done in the W.N.L.A. Compound; and we arranged for a special form of return in which the population of the mines should be divided up into (*a*) inoculated natives, (*b*) natives who were set aside as controls, and (*c*) natives who were excluded from the experiment either because they had joined later, or because they had for other reasons failed to put in an appearance at the inoculation parade. All sorts of difficulties, however, presented themselves in connexion with working out this scheme. It was found very difficult to get the records of the inoculated and controls accurately made when such large bodies of natives as were here in question were being dealt with. Again, the arrangements made for keeping track of the inoculated and uninoculated left in many places very much to be desired. Complications also presented themselves with regard to making proper allowance for natives who left the mines "time-expired" within the period of observation. Lastly, the inoculated turned out to be non-homologous with the controls, and there was—in contrast with what obtained in our other experiments—a sensible defect of homogeneity in the population of natives we were dealing with.

In connexion with the comparability of the inoculated and the controls it may be explained that the native labourers on the Rand come from as far south as the Cape, and from as far north as the Equator; and that there are between the different races of natives at the mines great differences with respect to tractability and susceptibility to pneumonia, the tropical natives being at once the most tractable and the most susceptible to pneumonia, and the East Coast natives, as we are informed, much more difficult to handle and at the same time more resistant to pneumonia. It will be readily understood that under these circumstances the inoculated group would tend to be more largely composed of the more tractable and, as it happens, more *susceptible tropical* natives, and the uninoculated group to be composed of the less tractable and, as it happens, less susceptible East Coast natives.

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* In compiling this table the fact that the native whose death was recorded in the report from the mines had passed before us, and had been inoculated *or set aside* as a control, was verified by reference to our records; the period which had elapsed since the date of the first inoculation and his death being at the same time ascertained.

In connexion with the homogeneity of the population operated upon, it is to be observed that the fresh arrivals are (as will be seen from the figures for the uninoculated in Tables XII. and XIII., XV. and XVII.) the most susceptible to pneumonia, and that those who have been longer upon the mines have become more resistant to pneumonia. By consequence every group which is chosen from the native population, without reference to length of residence on the mines, will comprise persons of very different degrees of resistance.

As soon as these considerations had, one after the other, come home to us, we decided to bring this particular mass-experiment to a close, and to jettison, as open to fallacy, such statistical returns as had already been sent in to us in connexion with the experiment.

If, as we cannot in view of our other experience doubt, this mass-experiment gave good results, we suggest that the advantage was reaped in the form of a diminution in the general death-rate from pneumonia on the Rand.

Mass-experiment No. 3.—Having learned from experience in Mass-experiment No. 2 the difficulties which have to be confronted and the fallacies which have to be avoided in connexion with a general inoculation, we set ourselves to organise such an experiment upon better lines. The mass-experiment here in question was begun in May, 1912. It consisted in a series of general inoculations undertaken in 20 mines[2] and limited to tropical natives who had, in the season 1911–12, passed out to the mines from the W.N.L.A. Compound. In view of the fact that it had been shown in Mass-experiment No. 1 that there was, after two months, no difference between inoculated and uninoculated, the whole of the tropical natives of the year, with the exception of those few who left the compound for the mines in March and April,[3] were regarded as, for our purposes, homologous.

In each mine three general inoculations were undertaken, approximately a month intervening between the first and the second, and again between the second and the third inoculation; and the dose of vaccine was uniformly 150 million pneumococci. On the *first* occasion approximately half of the tropical natives were inoculated, and half were left as controls—giving a group of 3975 inoculated and a group of 4769 uninoculated. Among these last were counted in a certain number who were actually at work on the mine, but who for one reason or another were not actually forthcoming at the first parade. At the *second* general inoculation, half of those who had on the first occasion served as controls were inoculated; and of those who were on that occasion inoculated one moiety was reinoculated, while inoculation was withheld from the other with a view to find out how long the effect of the previous inoculation would make itself felt. At the *third* general inoculation, again, half of those who functioned at the second inoculation as controls were inoculated, and nearly all those who were previously inoculated were reinoculated.

Quite special care was devoted to ensuring accuracy in the records, the procedure adopted being as follows. For each mine two lists were prepared. On the first (hereafter called the "depôt list") the "depôt numbers," with which the natives leave the W.N.L.A. Compound, were arranged in serial order, the corresponding "mine numbers," which are given to the natives on arrival at their mines, being entered in the second column. On the second list (hereafter called the "mine list") the mine numbers were set down in serial order, and the corresponding depôt numbers were entered in the second column. This done, the depôt list was taken in hand by us, and we inserted in the third column, opposite the numbers, alternately a red or a blue diagonal line—the red line to indicate that the native was to be inoculated, the blue that he was to serve as a control. Corresponding entries were then made on the mine list.

When visiting the mine for the purpose of the general inoculation the natives were identified by their mine numbers as they passed up from their work, and they were inoculated or sent on uninoculated, according as their numbers were marked in red or blue, and the diagonal lines on the list were at the same time converted into crosses to show that these natives had been dealt with. Corresponding crosses were afterwards made upon the depôt list. The returns were made monthly by the medical officers of the mines on printed forms specially issued for this purpose. The return gave in connexion with each patient admitted to hospital his depôt number, the date of his admission, the diagnosis, and the date of his discharge or death.

In Table XV. we have grouped the results under the headings of results in the *first*, *second*, *third*, and *fourth* months. We have included in the results obtained by inoculation in the first month, not only the results which refer to the 3975 inoculated in the first general inoculation, but also the figures which refer to the natives who were inoculated for the first time at the second and third general inoculations. Moreover, in the case where a man was inoculated more than once we have set down in the "results obtained in the first month after inoculation" those which apply to him for the month following each of his several inoculations. For we find by analysis of the figures that the inoculation of men who have been inoculated one month previously with 150 millions gives neither better nor worse results than are obtained where men are inoculated for the first time.

We have dealt in a precisely similar fashion with the results which apply to the uninoculated. For instance, when, in making up our results for the first month, we come upon a man who was at each of three successive general inoculations taken as a control, we enter him in our statistics three times over (once for each several month) in order that he may serve as a control for the men who were inoculated at the first, second, and third inoculations respectively. Similarly, when we come upon a man who was inoculated for the first time at the third general inoculation, we include him twice over in our controls. And when we come upon a man who was inoculated for the first time at the second general inoculation, we include him once in our controls. We follow, *mutatis mutandis*, precisely the same procedure when dealing with the returns which apply to the second, third, and fourth months.

It will be seen that with the very small dose of vaccine which here came into application a very striking advantage was achieved in the first month after inoculation, but that advantage had nearly passed away by the end of the third month. The records are not continued beyond the fourth month because the mass-experiment next on our list was then begun.

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[2] The mines chosen for the experiment were those which had received the largest number of tropical natives.

[3] These were excluded from the experiment and left out of the record.

TABLE XV.—*Showing Results for Four Successive Months after Inoculation.*

—	Number of men in the group.*	Cases of pneumonia.		Deaths from pneumonia.	
		Number.	Percentage.	Number.	Percentage.
Results for the First Month.					
Inoculated	10,626	125	1·1	22	0·21
Uninoculated ...	10,503	216	2·05	40	0·38
Results for the Second Month.					
Inoculated	6,787	76	1·12	15	0·22
Uninoculated ...	8,380	123	1·5	25	0·3
Results for the Third Month.					
Inoculated	6,103	59	0·96	13	0·21
Uninoculated ...	7,823	92	1·2	22	0·28
Results for the Fourth Month.					
Inoculated	6,103	44	0·72	16	0 26
Uninoculated ...	7,823	68	0·87	20	0·25

* In view of the fact that the corrections which would be applicable under the heading of deaths and repatriations would be quite insignificant, we have not troubled to deduct them from the numbers of the inoculated and uninoculated.

Mass-experiment No. 4.—This experiment consisted in a general inoculation carried out in November in 18 out of the 20 mines which were in question in the last experiment. It relates to those tropical natives who belonged to gangs which passed through the W.N.L.A. Compound in 1912, and who were accordingly due to remain in the mines till at least the end of January, 1913. Those who had in the last experiment served as controls were retained as such, and the rest were reinoculated—in each case with a dose of 1000 millions of pneumococci, grown in part on serum broth and in part on glucose serum broth. In this way there was obtained a group of 610 uninoculated, which for the purpose of such comparisons as those we are here making was undesirably small, and a group of 2322 inoculated. The results as ascertained from the returns rendered on the printed forms referred to in connexion with the last experiment were as follows:—

TABLE XVI.—*Setting Forth the Result Obtained for the Period of Five Months after the Date of the Inoculation.*

—	Number of men in the group.	Cases of pneumonia.		Deaths from pneumonia.	
		Number.	Percentage.	Number.	Percentage.
Inoculated	2322	70	3·0	20	0 86
Uninoculated ...	610	21	3·4	8	1·3

The question as to why larger advantage was not here reaped from inoculation is reserved for discussion in our summary of results.

Mass-experiment No. 5.—This experiment was undertaken upon the tropical natives who arrived in the compound of the W.N.L.A. between the middle of August and the end of November, 1912. The chief objects that it had in view were: (*a*) the determination of the optimum dose of pneumococcus vaccine for prophylactic uses, and (*b*) the decision of the question whether cultivations on glucose serum broth furnished a better vaccine than cultures on the ordinary serum broth. The inoculations were carried out exactly as in the case of Mass-experiment No. 1, with the difference that only every fifth native was taken as a control. The procedure adopted with regard to dosage was to take for the general inoculation in each case doses which had been previously ascertained to be perfectly safe, and then to reconnoitre by inoculating a small group with larger doses.* Advancing in this manner we obtained for study a series of six groups.

The general results may be summarised as follows: Employing a *vaccine prepared by cultivating the pneumococcus on blood broth* and a dose of 250 millions, we obtain, for a period of one month after inoculation, a reduction of the incidence from 7 per cent. in the controls to 3·7 per cent. in the inoculated; and a reduction of the death-rate from 2·9 per cent. in the controls to 1·5 per cent. in the inoculated, that is to say, in each case a reduction equivalent to about 50 per cent. With a dose of 500 millions of the same vaccine we obtain, for the first three months after inoculation, a reduction of about 25 per cent. in the incidence and nearly 50 per cent. of the death-rate. With 1250 millions of the same vaccine we obtain a much less favourable result: a reduction, on a period of three months, of 30 per cent. in the incidence and of only 20 per cent. in the death-rate. We may presume that the dose here employed was too large. Employing *a vaccine prepared by cultivating a pneumococcus on glucose blood broth* we obtain, for a period of two months, with a dose of 500 millions a reduction of 50 per cent. in the incidence and of 40 per cent. in the death-rate. With a dose of 1000 millions we obtain,

TABLE XVII.†—*Showing the Results obtained by the Inoculation of Various Doses of Pneumococcus Vaccine grown on Blood Broth and Glucose Blood Broth respectively.*

—	Number of men in the group.	First month.		Second month.		Third month.		Fourth month.		Fifth and sixth months.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
(A) Results obtained by the Inoculation of 250 millions of Pneumococci grown on Blood Broth.											
Inoculated ...	646	24	10	17	5	14	4	9	2	16	5
Uninoculated ...	626	44	17	17	5	12	4	15	5	16	6
(B) Results obtained by the Inoculation of 500 millions of Pneumococci grown on Blood Broth.											
Inoculated ...	759	25	8	16	4	17	2	14	4	19	8
Uninoculated ...	764	46	19	21	6	17	5	18	5	20	6
(C) Results obtained by the Inoculation of 1250 millions of Pneumococci grown on Blood Broth.											
Inoculated ...	1582	37	17	40	10	28	10	17	6	44	13
Uninoculated ...	791	23	10	31	8	21	6	12	3	14	7
(D) Results obtained by the Inoculation of 500 millions of Pneumococci grown on Glucose Blood Broth.											
Inoculated ...	463	18	10	7	1	9	3	7	2	7	5
Uninoculated ...	457	35	14	14	5	10	3	12	4	10	4
(E) Results obtained by the Inoculation of 1000 millions of Pneumococci grown on Glucose Blood Broth.											
Inoculated ...	650	20	6	20	3	10	2	6	3	14	3
Uninoculated ...	595	37	16	18	6	15	4	15	4	14	4
(F) Results obtained by the Inoculation of 2500 Pneumococci grown on Glucose Blood Broth.											
Inoculated ...	1682	47	17	42	8	28	5	21	10	35	8
Uninoculated ...	791	23	10	31	8	21	6	12	3	14	7

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* We found in these experiments that doses up to 40,000 millions of pneumococci produced nothing more than a very slight constitutional disturbance and a very small rise of temperature. This is in good accord with the generalisation (*vide supra* Section II.) that what counts in the case of an inoculation is not the actual quantum of vaccine we incorporate, but the quantum of antigen set free from it in the organism of the patient.

† It is to be observed that the results of those inoculated with reconnoitring doses are excluded from consideration, and that the uninoculated who serve for controlling the effect of one dose are often the self-same individuals as serve for the controlling of another dose.

over a period of three months, a reduction of 30 per cent. in the incidence and of over 60 per cent. in the *death-rate.* *With a dose of 2500 millions* we again obtain less satisfactory results; a reduction of just over 20 per cent. in the incidence, and a reduction of 35 per cent. in the death-rate.

There can be extracted from the statistical data which are available in connexion with this mass-experiment, not only conclusions bearing on the question of the relative efficacy of the various doses of vaccine which were administered, but also valuable information bearing on the question of the production of a negative phase—information which has, as we shall see, an important bearing on the question of the utilisation of vaccine in the treatment of pneumonia. The data which seem to us important from this point of view are set out below in the form of a table.

The facts which are set forth in this table are, as will be seen, very remarkable. Associating together the figures which apply to Groups A, B, D, and E; *i.e., the groups which received doses up* to 1000 millions of pneumococci, we find that, in the first four days after inoculation, 2500 inoculated had an incidence-rate of 0'52 per cent., and a death-rate in connexion with these cases of 0'16 per cent., while 750[4] controls had an incidence-rate of 1'4 per cent., and a death-rate in connexion with these cases of 0'84 per cent. In other words, the uninoculated had an incidence-rate nearly three times and a death-rate five times greater than the inoculated.

TABLE XVIII.

—	Number in group.	Number of cases of pneumonia which developed.													
		First day.		Second day.		Third day.		Fourth day.		Fifth day.		Sixth day.		First six days.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Group A (inoculated with 250 millions)	646	—	—	—	—	1	1	2	1	—	—	—	—	3	2
Control group	626	1	1	4	1	3	1	2	2	—	—	2	2	12	7
Group B (inoculated with 500 millions)	759	—	—	2	—	1	1	—	—	3	1	1	—	7	2
Control group	764	1	1	5	2	3	1	2	2	—	—	2	2	13	8
Group C (inoculated with 1250 millions)	1582	8	4	2	—	1	1	1	—		—	—	—	12	5
Control group	791	1	1	2	2	—	—	-	—	—	—	1	—	4	3
Group D (inoculated with 500 millions glucose vaccine) ...	463	1	1	—	—	1	—	—		—	—	—	—	2	1
Control group	457	1	1	3	1	3	1	1	1	—	—	2	2	10	6
Group E (inoculated with 1000 millions glucose vaccine) ...	650	—	—	1	—	2	—	2	—	-	—	1		6	—
Control group	595	1	1	4	2	3	1	1	1	—	—	2	2	11	7
Group F (inoculated with 2500 millions glucose vaccine) ...	1582	7	3	11	2	1	1	3	—	2	2	—	—	24	8
Control group	791	1	1	2	2	—	—	—	—	—	—	1	—	4	3

Again, associating together the figures which relate to Groups C and F—groups which received doses of over 1000 millions of pneumococci—we find that 3200 inoculated had for the same period an incidence-rate of 1'1 per cent., and a death-rate in connexion with these of 0'32 per cent., while 800 controls had an incidence-rate of 0'4 per cent., and a death-rate also of 0'4 per cent.

Two important conclusions follow: the *first* is that pneumococcus inoculation undertaken with doses up to 1000 millions had a marked effect in aborting pneumonia and in diminishing the case mortality. Or we may phrase it otherwise. Vaccine therapy as applied to the treatment of pneumonia is successful when doses of 250 to 1000 millions are given in the incubation stage of the disease. The *second* conclusion is that inoculation undertaken with doses of over 1000 millions of pneumococci may perhaps temporarily increase the incidence-rate of pneumonia.

It is perhaps of interest to point out that these conclusions are essentially the same as those formulated in connexion with plague vaccine by Mr. Haffkine, immediately after he had carried out his first mass-experiment in the Byculla Jail, Bombay, in 1898. In that experiment, as in the mass-experiment we are here dealing with, a decisive difference in favour of the inoculated half of the population manifested itself already within 24 hours. And the view that Mr. Haffkine maintained (in contravention to that held by one of us) that plague vaccine does not produce a negative phase, and that it has the power of *aborting* an incipient attack, was afterwards established by evidence accumulated by Miss Alice Corthorn, M.D.,[5] and Surgeon-General W. B. Bannermann, I.M.S.[6] In connexion with this all that requires to be said is that the generalisations in Section II. of this Report —generalisations which have been reached only after years of further work—have made it intelligible that a negative phase should manifest itself with large doses of typhoid vaccine, a vaccine which is easily broken down in the normal organism, and again with all vaccines after the organism has, by foregoing immunising response, acquired bacterioclastic power, and that this phase should make *default in the uninfected organism, and in the early* stages of infection when vaccines, such as plague vaccine and pneumococcus vaccine which are with difficulty broken down in the body, are inoculated.

In concluding this account of the results obtained in Mass-experiment No. 5 we may profitably advert to one more general consideration. It is, as will presently be brought out more fully in Section V., reasonable to expect that an effective inoculation will give an additional bonus in the form of a diminution in the morbidity which comes upon the record under the heading of "Other Diseases." In point of fact, the *records which relate to the particular* mass-experiment we are here discussing show such a reduction. We have our bonus in the form of a 15 per cent. reduction in the "other diseases" of the inoculated, the figures being: *inoculated*, 6224; *uninoculated*, 1545. Cases of sickness other than pneumonia: in *inoculated*, 2154; in *uninoculated*, 620.

We now pass to our sixth and last mass-experiment.

Mass-experiment No. 6.—This mass-experiment was undertaken upon the natives employed in the Premier Diamond Mine—a mine which, despite the fact that it employs no tropical labour, has always suffered very severely from pneumonia. We began with a general inoculation on Jan. 21st, 1912, inoculating at a sitting about 4000 natives. The experiment thus begun was followed up by a methodical inoculation of the recruits who joined the mine. These inoculations were very admirably organised, carried out, and recorded by Dr. J. C. A. Rigby, who was very ably assisted by Mr. H. P. Sheridan. From Jan. 21st onwards till March 15th, 1912, every second native was inoculated as he arrived at the mine. From that date onwards only every third man was kept as a control, and gradually as it became more and more evident that good results were being obtained an increased proportion of the recruits were inoculated.

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[4] This figure is arrived at by taking the actual number of men who served as controls for Groups A, B, D, and E.

[5] Brit. Med. Jour., Jan. 25th, 1902.

[6] Ibid., Sept. 14th, 1901.

At the outset the dose which was employed was 200 million pneumococci, and gradually as it became clear from the results that were coming in from Mass-experiment No. 5 that the employment of larger doses was indicated the doses were gradually increased to 250 million, then to 500 million, until finally a dose of 1000 million was reached.

Returns which were very carefully prepared were furnished to us every month, and we were further, at the end of the first six months, and again at the end of the first year of the experiment, furnished with a detailed synopsis of the results. These returns are our authority for the facts set forth below.

TABLE XIX.—*Showing the Results for the Whole Native Population of the Mine for the Year beginning Jan. 22nd, 1912, and ending Jan. 21st, 1913.*

—	Daily average strength of the group.	Cases of pneumonia.		Deaths from pneumonia.	
		Number.	Percentage.	Number.	Percentage.
Inoculated	9909	508	5·13	154	1·55
Uninoculated ...	4520	467	10 33	145	3 21

We subjoin also, for reasons that will presently appear, another statistical record which excludes all those who were on the mine on Jan. 21st, 1912, and takes into account all the natives who came to work on the mine during the next 12 months. It may be remarked that the fact that the native at this mine usually works on a six months' contract would make the daily average population equivalent to about half the number of the natives who join in the year.

TABLE XX.—*Showing for the period Jan. 22nd, 1912, to Jan. 22nd, 1913, the Results for the Natives who came in that year to work on the Mine.*

—	Number of natives who joined the mine.	Cases of pneumonia.		Deaths from pneumonia.	
		Number.	Percentage.	Number.	Percentage.
Inoculated	17,431	376	2·16	120	0·7
Uninoculated ...	6,771	348	5·14	120	1·77

Finally, in connexion with the mass-experiment here in question, we may give the figures for the corresponding period relating to the incidence and death-rate of "other diseases" in the inoculated and uninoculated sections of the population. These figures are as follows: *Inoculated*, average daily strength, 9909; incidence rate, 47·2 per cent.; death-rate, 0·93 per cent. *Uninoculated*, average daily strength, 4520; incidence rate, 106·6 per cent.; death-rate, 1·90 per cent.

SECTION V.—*General Survey of the Results obtained by Therapeutic and Prophylactic Inoculation of Pneumococcus Vaccine; and Critical Comment.*

Vaccine-therapy of Pneumonia.

In connexion with the vaccine-therapy of pneumonia we have, on the one hand, the fact that inoculation in the form of small doses frequently repeated was absolutely ineffective (Table XI.); and, on the other hand, the fact that inoculation in the form of a single large dose, administered in the incubation period, often arrested the disease and averted death (Table XVIII.).

That the difference of dose determined the difference of event is to us as good as certain. Let us—recalling to mind the general propositions formulated in Section II.—here take note of the fact that the doses which we found inoperative were doses from which there could, at best, have been expected that they should elicit a local immunising response. Further, let us note that the evocation of such response would be dependent upon a sufficiency of antigen passing into solution in the lymph at the seat of inoculation.

Lastly, let us note that it is quite likely that microbes which are ingested by phagocytes may, from the point of view of the immunising reaction, be left quite out of regard.[7] In connexion with this it is almost superfluous to point out that when comparatively small numbers of microbes are inoculated, and when they come into contact with a lymph which possesses opsonic power, but only inappreciable bacterioclastic power, they will almost certainly sooner or later be ingested by phagocytes.

In general contrast with all this would be what would happen when a large dose of vaccine is inoculated. In this case the microbes would be carried on into the main lymphatic current or blood-stream, with the result that inevitably some would escape phagocytosis, and inevitably some of these would, even if the blood had but very little bacterioclastic power, be broken down. And there would supervene upon the convection of the antigen to the tissues through the blood a systemic immunising response.

As we see no reason to suppose that the conditions appreciably alter, and as we know that the bacterioclastic power of the blood does not sensibly increase when pneumonia develops, we think it reasonable to expect that the favourable results which were obtained by the inoculation of doses of 250 to 1000 millions of pneumococci would repeat themselves if this treatment were applied in the early stages of pneumonia. We were prevented from undertaking a therapeutic mass-experiment upon these lines in the season 1912–13 by the fact that we were then engaged upon Mass-experiment No. 5 (that which furnished the data we have here been reviewing), and had to be on our guard against falsifying the results it was giving by any therapeutic interference.

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[7] We hark back here to an objection which was long ago (as we think inappositely, because the blood fluids exert a bacteriolytic effect on the cholera vibrio) brought forward by Metchnikoff in connexion with Ferran and Haffkine's anti-cholera inoculations.

Prophylactic Inoculation against Pneumonia.

The comparative statistics which have been set forth above testify, as has been seen, in every case to a reduction in the incidence-rate and death-rate of pneumonia in the inoculated.

In adjudicating upon a procedure of prophylactic inoculation the following general theses must be taken into account.

1. The advantage derivable from a prophylactic inoculation will be limited by the patient's power of immunising response. In accordance with this, one would not expect to achieve as much by inoculation in a naturally non-resistant population—such as that represented by the tropical native labourers on the Rand—as in a more resistant population—such as is, by common repute, represented by the native labourers on the Premier Mine. We may, perhaps, bring into relation with this consideration the fact that we have, as the result of the application of prophylactic inoculation to the tropical natives on the Rand, in *Mass-experiment No. 1* (*Tables XII. and XIII.*) a reduction of 37·5 per cent. in the death-rate of the inoculated upon an observation-period of six months; in *Mass-experiment No.* 3 (*Table XV.*) a reduction of 31 per cent. in the death-rate of the inoculated upon an observation-period of four months; and in *Mass-experiment No.* 5 (*Table XVII., Group E*) a maximum reduction of 50 per cent. in the death-rate of the inoculated upon an observation-period of six months; while we have upon the Premier Mine (*Mass-experiment No.* 6, *Table XX.*) upon a 12 months' observation-period a reduction of 60 per cent. in the death-rate for the inoculated.

2. The advantage derivable from prophylactic inoculation will depend upon the degree to which the population to which it is to be applied has already run the gauntlet of the particular microbic infection in question. In accordance with this, one would expect greater advantage from inoculation when applied to a population newly arrived in the field of infection, than from inoculation applied to a population which had been long in such a field *continuously* exposed. It falls in with this, that while we have in the inoculated in Mass-experiment No. 5, Group E—an experiment in which the uninoculated had an incidence-rate of 15 per cent., and a death-rate of 5 per cent. over a five-month period—a reduction of 35 per cent. in the incidence and of 55 per cent. in the deaths; we have in the inoculated in Mass-experiment No. 4 [8]—an experiment in which the uninoculated had an incidence-rate of 3·4 per cent. and a death-rate of 1·3 per cent. for the same period—a reduction of only 10 per cent. in the incidence-rate and of 34 per cent. in the death-rate. We may further note that we have, in connexion with Mass-experiment No. 6, in the case of the inoculated a reduction in the incidence-rate of 50 per cent., or 58 per cent., and a reduction in the death-rate of 52 per cent., or 61 per cent., according as we take as our controls (as in Table XIX.) the population already on the mine, or (as in Table XX.) the population of new arrivals.

3. Where in comparative statistics we find that the difference between the inoculated and the uninoculated is after a certain time effaced, this does not necessarily indicate that the immunity of the inoculated is diminishing. We may be witnessing, instead of a descent of the inoculated to the level of the uninoculated, an ascent of the uninoculated to the level of the inoculated. This is, presumably, the true interpretation of the fact that our inoculated natives displayed only for a comparatively short period an advantage over the uninoculated. For we have uniformly, in all our records (Mass-experiments Nos. 1, 3, and 5; Tables XII. and XIII., XV., and XVII.), and *therefore presumably independently* of any change in the external conditions—instead of a progressive falling off in the incidence-rate and death-rate of pneumonia in the inoculated, a progressive improvement in the incidence and death-rate in the uninoculated.

The point of interest which here suggests itself is the question as to how the ascent of the uninoculated to a higher level of immunity, and the accompanying progressive improvement in the figures for the inoculated, which is a feature of all the statistics, is to be accounted for. Two alternative hypotheses here suggest themselves. The attainment of a higher level of immunity may be explained by supposing that the most susceptible individuals have been weeded out by death from each group. But this is not a very acceptable hypothesis, for it is hard to believe that infection can ever be distributed over a population in so uniform a manner as punctually to pick out and kill all the more susceptible individuals. It is much more probable that the progressively increasing resistance in both the inoculated and uninoculated groups is achieved by processes of self-immunisation consequent upon minor infections which affect practically the whole mass of the population. We have what we think presumptive proof that such agencies are at work in the fact, already adverted to above, that there were, in practically every group of four to six uninoculated natives whom we employed as controls, some who were almost certainly suffering from minor pneumococcus infections. Not only does this theory furnish, as it seems to us, a satisfactory explanation of the progressive improvement in the figures for both inoculated and uninoculated, but it puts into our hands, as we think, a clue which may guide us in our search for the optimum dose of a vaccine for prophylactic use. In the case where we institute a comparative experiment—and we have the results of such a comparative experiment set out in Table XVII., Groups A and E—*employing in* one group (let us call it *Group No. 1*) *a smaller*, and in another group (let us call it *Group No. 2*) *a larger dose;* and where we then find that in *Group No. 1* the figures, taken when those *for the uninoculated become equally* good, are inferior to those afterwards reached; and that in *Group No. 2* the figures, taken again when those for the uninoculated become equally good, are not afterwards improved upon—we may legitimately infer that in *Group No. 1* prophylactic inoculation left something undone which was afterwards achieved by self-immunisation; and that in *Group No. 2* prophylactic inoculation accomplished, so far as appears, all that self-immunisation was capable of achieving. It will be realised that this amounts to saying that the optimum dose, or series of doses, of vaccine is that which produces an immunising response which is incapable of any further reinforcement; and that we ought to aim at effecting by prophylactic inoculation all that living in the presence of infection, and having actual dealings with infection, is capable of achieving.

4. Comparative statistics furnish only a very incomplete account of the profit earned by any successful prophylactic inoculation. It has among

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[8] In this mass-experiment the dose of vaccine employed was the same as that in Mass-experiment No. 5, Group E, and the culture medium employed in making the vaccine was also largely the same.

statisticians been too much the habit to give credit only for the profit shown upon comparative statistics, and to disallow credit for maintained advantage unless proof is produced that the incidence and death-rates of the disease have been, as the ordinary statistician would wish, maintained in the uninoculated section of the population. Examples of this method of auditing profits are furnished by the fact that when, in connexion with small-pox vaccination, the statistical records for France, which is very incompletely, and Germany, which is very completely vaccinated, are contrasted; or when, in connexion with typhoid inoculation, the condition in the army in India before typhoid inoculation is contrasted with its condition to-day, when the large bulk of the British troops are inoculated; or when, in connexion with that same process, a comparison is made between the statistics for the Jacksonville Camp in the Spanish-American War, where out of a strength of nearly 11,000 United States troops, all being uninoculated, at least 1729 contracted typhoid, and the statistics for the San Antonio Camp on the infected Mexican frontier, where nearly 13,000 United States troops, who were all inoculated, were massed with only one case of typhoid[9]; the comparison is in each case disallowed on the ground that there were not sufficient uninoculated controls interspersed among the inoculated, or that the contrasted populations were not quite homologous, or that the conditions to which they were exposed were not exactly alike. The statistical auditor who refuses to give any credit upon vouchers which have been left in some point incomplete is, of course, keeping himself well within the law. But he is leaving quite out of regard the equities.

When the question as to how we should evaluate the results of an effective inoculation process (and we may here deal specifically with pneumococcus inoculation) is regarded from this point of view—in other words, when we take a broad view of the probabilities—it will become clear that it would be altogether proper to claim credit:—*in connexion with the inoculated:* (*a*) for any diminished incidence and any diminished death-rate from pneumonia which is attested by comparative statistics for inoculated and uninoculated; (*b*) for any diminished incidence and death-rate from other pneumococcic infections (whether diagnosed as such, or undiagnosed) which come upon the record; and (*c*) for any diminished incidence and death-rate from infections which were not due to the pneumococcus, but were directly consequent upon pneumococcic infection. Further, *in connexion with the uninoculated* section of the community, credit may equitably be claimed (*d*) for any diminution in the incidence-rate and the case-mortality of pneumococcic infections—for the former because a reduction in the number of pneumococcic cases in the inoculated would diminish the general volume of infection; for the latter, because a reduction in the virulence of the infection might reasonably be expected from the diminished "passaging" (i.e., transference from case to case) of the infective microbe.

It is to be noted that it is only the establishment of the general principle that we may anticipate profits under each of these headings, and that these profits cannot equitably be left out of account, which is here vital. The matter of real concern connexion with any effective inoculation procedu is that by it we are transported out of a vicio circle—a *circulus vitiosus* of infection and nc resistance, into a "propitious circle"—a *circul felix* of increased resistance and diminished inf tion. In comparison with the establishment this, it is a small matter that, when fairly enter upon a propitious circle, it becomes impossible tell how much of the sum-total of effects is due inoculation and how much to other causes.

With these preliminary explanations and reserv we may here subjoin a further table which has ref ence to the mass-experiment on the Premier Min

Table XXI.—*Showing for the Whole Native Pop lation of the Premier Mine the Incidence a Death-rate for Pneumonia; the Incidence a Death-rate for "Other Diseases"; and also t Number of Working Days Lost through Illnes for the Months February to May,* in 1911, 191 and 1913 respectively.*

—	1911	1912	1913
Population (daily average strength)	10,426	12,549	15,284
Proportion of the population inoculated	0	About 50 per cent.	About 92 per cen
Incidence-rate of pneumonia	4 per cent.	1·28 per cent.†	0·74 per cen
Death-rate from pneumonia	0·97 per cent.	0·31 per cent.	0·14 per ce
Incidence-rate of other diseases ...	31 per cent.	20·7 per cent.	14·4 per c
Death-rate from other diseases ...	0·51 per cent.	0·38 per cent.	0·34 per ce
Number of working days lost per 100 native labourers	275	177	131

* We have been furnished with data for this comparison only up May, 1913.

† In 1912 the incidence-rate was 0·86 per cent. for the inoculated a 1·7 per cent. for the uninoculated. In 1913 it was 0 6 per cent. for th inoculated and 3 per cent. for the controls.

Section VI.—*Concluding Considerations and R commendations with Regard to the Measures t be taken to Combat the Pneumonia on the Rand*

In considering what measures ought to be taken to combat the pneumonia on the Rand it is essential to start with a proper appreciation of the character and natural history of the disease. The s facts in connexion with the pneumonia which affects the native labourers on the Rand are as follows:—

The disease is—as investigation, and in pa ticular the investigation made by Dr. Turner in Tropical Africa, has shown—unknown, or pract cally unknown, in the native kraals. The disea has no special relation to the mining work on Rand. It takes no heavier toll of the natives work in the deep-level mines of the Rand than those employed on the Premier Mines on op workings. Moreover, the disease is seen at its worst in the compound of the W.N.L.A. among newly arrived natives who have not yet begun the work on the mines. Again, the prevalence of pne monia and other pneumococcic infections a the natives in the mines of the Transvaal can ha no special relation to its climate or to its elevati above the sea level; for these infections caused very heavy mortality among the African nati working upon the Panama Canal at sea level. they also cause very serious loss of life am the negro labourers and soldiers in Rhodesia, t French African Colonies, the Egyptian Soudan, elsewhere. Finally, we have the very material fact, which has been brought out in this report, that the blood of the African native is, so far as relates to its power of phagocytosing and killing the pneumococcus, very inferior to that of the European, and that the capacity for immunising response is also much less in the African than in the European.

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[9] Russell: United States Army Medical Department, Bulletin No. 2, January, 1913, p. 11.

These considerations make it practically certain that the prevalence of pneumonia on the Rand is to be ascribed to the bringing together into close contact in compounds of a population which has, as a racial character, a low resisting power to the pneumococcus. If this is so, it is obviously a circumstance which ought to dictate our plan of attack, and to determine in particular what place in our scheme of operations ought to be taken respectively (*a*) by measures which aim at preventing the convection of pneumonia from man to man; (*b*) by measures which aim at holding off influences which might impair the natives' resistance to infection; and (*c*) by measures which aim at increasing the natives' resistance to infection.

(*a*) Under the heading of "measures for avoiding the convection of infection from man to man" would come: measures for the earliest possible detection and isolation of cases of pneumonia; measures for the disinfection of the sleeping quarters from which such cases have been removed; measures for diluting the infective matter in these sleeping quarters by schemes of ventilation; and lastly, measures for the quarantining of recovered pneumonic patients with a view to the prevention of a spread of infection from these. With regard to these, we may remark that, while we see no reason to doubt that each of these measures would in its degree counteract the spread of infection, we have grave doubts as to whether they could ever be made effective measures for combating pneumonia on the Rand. We are taking into consideration here, *first*, the fact that it would be a very difficult thing to carry out upon the Rand measures for the early detection and subsequent quarantining of pneumonic cases; *secondly*, the fact that we have on the Rand not only to deal with pneumonia, but also with very numerous cases of lighter forms of pneumococcic infection; and, *thirdly*, the fact that the pneumococcus lives saprophytically on the mucous membrane of a majority of healthy men. Moreover, in connexion with the question of the adoption of measures for preventing the spread of pneumonic infection from man to man, it will be well never to leave out of sight the fact that given a population which, like a European population, possess a relatively high resistance to the pneumococcus, all such measures can be dispensed with.

(*b*) Coming now to "measures for holding off influences which might impair the native normal resistance to infection"—and we have in view here such a measure as the provision of "change houses"[10] for safeguarding the native against chills—we are of opinion that the place of such measures in a plan of campaign against pneumonia is at best a very subordinate one. In this connexion we would again emphasise that the really predisposing moment in the case of pneumonia is to be found, not in those incidental and temporary impairments of resisting power which may occur in connexion with mining work, but in that abiding defect of resisting power which is normal to the native. We have here clearly a fact which dictates recourse to inoculation, and which indicates that a very important place in our scheme of operations ought to be assigned to this measure.

(*c*) Our recommendations in connexion with inoculation are as follows:—

We recommend that prophylactic inoculation should, except only in the case where a mass-experiment is being undertaken, be applied as a routine measure to every native on recruitment. In the light of the results furnished by Mass-experiment No. 5 (Table XVII.), we suggest that a dose of 1000 millions of pneumococci cultivated upon glucose blood broth might appropriately be employed as the ordinary prophylactic dose.

We further recommend that the natives should be reinoculated after the expiration of four months, and that here again a dose of 1000 millions of pneumococci should be employed.

We would not for the present advise any general application of therapeutic inoculation. We would, however, urgently recommend that it should be made the subject of further investigation.

We regard the continued prosecution of research in connexion with inoculation as essential to the attainment of the best results.

We recommend that such research should comprise, on the one hand, the institution of properly controlled mass-experiments, and, on the other hand, the systematic measurement of the protective substances produced in response to inoculation. In such measurements we suggest that the method for measuring the phagocyto-bactericidal power of the blood which is described in this report, or some modification of that method, should be utilised.

In connexion with prophylactic inoculation, the task of research should be to obtain confirmation of the conclusion that we have in 1000 millions the optimum dose for prophylactic purposes. It would also be well to make certain that reinoculation after a period of four months is really required.

In connexion with therapeutic inoculation, the first task of research should, we think, be to institute a mass-experiment in which one large dose of vaccine should be given to the patient at the outset of his pneumonia attack. We suggest that a dose of 500 millions might be tentatively employed in such an experiment, and we think that in such an experiment every alternate patient should be taken for a control.

In concluding this report we desire again to express our obligations to Dr. G. A. Turner for unwearying assistance in connexion with the inoculations which we carried out on the Rand, and to Dr. F. C. Lister, Dr. A. R. Friel, and Mr. G. Friel for valuable help in our laboratory work. We desire also to thank Mr. P. Ross Frames, chairman of the Research Committee and managing director of the Premier Mine, for the helpful assistance he afforded us in both of these capacities. And to Dr. J. C. A. Rigby and to Mr. H. P. Sheridan we owe a very special debt of thanks for their eminently successful achievement—the mass-experiment carried out on the Premier Mine.

Finally, the author of this report desires to express to Dr. W. Parry Morgan, who took independent charge of the inoculation work after March, 1912, his grateful acknowledgments for his initiative and forethought in planning Mass-experiments Nos. 3, 4, and 5, and for the solicitude with which he carried these out. In connexion with our work acknowledgments are also due to the excellent and conscientious labours of Mr. O. Slawkowsky, our chief laboratory assistant, and of Mr. P. Hardwick, our statistical clerk.

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[10] It may be explained that "change-houses" are sheds in which the native is compelled to change clothes before he emerges from the mine into the open air.

UNPOLISHED RICE AND THE PREVENTION OF BERI-BERI.

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SINCE the publication of our completed report on the etiology of beri-beri in 1911 communications have been published by several investigators who have sought to isolate from rice polishings the substance or substances which are of value in the prevention of beri-beri.

We found that by the extraction of polishings with acidulated alcohol a preparation was obtained which was effective in preventing the occurrence of polyneuritis in fowls fed on polished rice and also in curing that disease. It is to extracts prepared by this method or similar ones (for an effective extract can also be prepared by means of acidulated water) that physiological chemists have devoted their efforts.

In this field of investigation much work has been done by Funk, who tested the various substances which he isolated on pigeons suffering from polyneuritis induced by the consumption of polished rice. To a curative substance prepared by him he assigned the name "vitamine," and gave it a formula calculated from the results of one analysis; this formula he subsequently amended. As the molecular weights are unknown, and as, in the case of complex substances, from the results of a combustion, several formulæ can usually be worked out, it is obvious that the formulæ cannot be accepted without question. Moreover, by the variety of formulæ he has given it is suggested that the substances were impure, and but for the fact that he has reduced the volume of the material in which the active substance or substances are contained, a proprietary name might quite as reasonably have been applied to the curative fraction isolated by us from rice polishings and known to be a mixture of substances. Indeed, Tsuzuki has applied the name "antiberiberin" to the moist, black, sticky residue obtained on evaporation of the alcoholic extract.

Reasonable allowance must be made for the magnitude and difficulties of the task confronting physiological chemists, but it appears that the methods employed in the work need to be improved; those now in use are crude, and are sources of errors because of the incomplete separations they effect, and because of the decomposition they so constantly produce. It may well be that the substance or substances which prevent beri-beri are elusive bodies and may never be isolated in a state of purity, but these problems in no way concern the physician or administrator whose work deals with the prevention and cure of beri-beri.

The fact that the continuous consumption of polished rice as the staple of diet gives rise to beri-beri in man rests on quite other testimony than that derived from experiments on fowls and pigeons, and the fact is equally well established that when rice-eaters substitute unpolished rice for polished rice the disease does not occur.

Further valuable confirmatory evidence has recently been obtained from the results of the expedition conducted by Mr. A. F. R. Wollaston and Mr. Kloss into the interior of Dutch New Guinea, where they had as their objective the exploration of the Snow Mountains.

The task which confronted them was, as both of them well knew, a formidable and an arduous one. Previous experience had shown them that the occurrence of beri-beri meant failure. Thus the Goodfellow expedition of 1909–1911, undertaken to explore the Snow Mountains, was decimated by disease; and Mr. Wollaston, the medical officer to that expedition, has recorded that "in the six months from the beginning of June to the end of November, 39 men showed definite signs of beri-beri and 7 deaths were directly attributable to this cause." The staple of diet was polished rice. A similar fate had befallen all previously recorded expeditions into this country save the one conducted by Moszkowski, in which unpolished rice was used, but as his expedition numbered only 10 men the results were inconclusive.

Convinced therefore that the work of the expedition could not be accomplished if their camp-followers and guard were fed on polished rice, Mr. Wollaston and Mr. Kloss decided that only unpolished rice should be used.

Here another difficulty confronted them. The only kind of unpolished rice which can be purchased in the Malay Peninsula in the open market is that known as parboiled rice. To this kind of rice the natives of India who immigrate to this country are accustomed, and by them it is preferred. It has, however, an objectionable odou and appearance; irritating properties have been ascribed to it, and it has even been thought to predispose to dysentery and the like diseases. Parboiled rice can be prepared free from objectionable properties, but the manufacturers will not s prepare it, and abundant practical experience has shown that the use of parboiled rice is not the solution of the problem of beri-beri prevention.

Braddon held that parboiled rice was a preventive of beri-beri because it had been "cured," and that white rice was harmful because of some poisonous substance contained in it. The excellent results obtained by the use of parboiled rice in the Government institutions of Malaya confirmed the accuracy of his view that such rice was a preventive of beri-beri, but when it was proved that white rice was harmful because in the process of polishing the subpericarpal layers were removed and that parboiled rice was only a variety of unpolished rice, the problem was entirely altered and the prevention of beri-beri was established on a rational basis.

Chinese, Malays, Javanese, and other rice-eating natives may, when deprived of their liberty in prison, be compelled to partake of parboiled rice, but on regaining their liberty they will not continue its use. If, on the other hand, an ordinary unpolished rice or "kampong" rice were in use in such places, a demand would be created for that rice, which would then become available commercially. In this way some real progress might be recorded towards the eradication of a preventable disease.

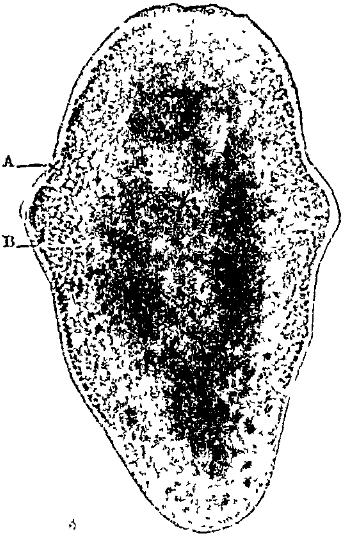
Fortunately, in Java, where the use of parboiled rice is unknown, Mr. Wollaston and Mr. Kloss were able to obtain a supply of unpolished rice adequate for the needs of their expedition. In addition acting on the suggestion of the writers, they took with them as an additional safeguard a supply of a remedial agent, the use of which we have advocated in the prevention and cure of beri-beri.

The expedition consisted of 204 natives of the Malayan Archipelago, who were rice-eaters, with

2 Europeans and 4 Eurasians. They left Batavia about the end of August, 1912, and reached Dutch New Guinea in the middle of September. After reaching the coast the explorers constructed canoes and ascended the Utakwa river. They went as far as possible by water, the journey occupying two days. They then proceeded overland by stages, each stage occupying three days. Camps had to be constructed at each stage, an undertaking of considerable magnitude and one which occupied much time. Four and a half months after they had arrived at the coast they reached the Snow Mountains and then commenced their return journey to the coast, which was reached in two months.

The expedition was in all of seven months' duration, and despite the laborious nature of the work among the 204 rice-eating natives no single case of beri-beri occurred. The general health conditions of the expedition are reported to have been excellent.

The daily ration issued to the natives was as follows: rice, 700 grm.; fish or meat on alternate days, 150 grm.; kachang idju, 200 grm.; Javanese sugar, 50 grm.; coffee, 20 grm.; tea, 5 grm.; salt occasionally, 20 grm. No fresh fish or meat was available during the expedition, only salt fish and meat preserved in syrup.



Transverse section of a grain selected from the rice used on Wollaston Kloss Expedition. A, Pericarp (valueless). B, Subpericarpal zone, the removal of which in the process of polishing converts a harmless rice into a harmful one.

Two varieties of unpolished rice were used. One with a red pericarp was employed during the first five months and one with a silvery pericarp was employed during the last two months. Neither rice could be considered satisfactory from the cosmetic standpoint. In the case of the red variety only a partial removal of the pericarp had been effected, and in the case of the silvery variety no attempt had been made to remove this valueless layer of the grain. Despite the appearance no objections were raised by the natives to these rices, but we think that steps ought to be taken to induce manufacturers to remove the pericarp and thereby improve the appearance of the grain.

In this connexion attention must again be directed to the valueless character of this structure. In previous reports the evidence has been furnished on which this statement is based, but writers, with but one or two notable exceptions, refer to the pericarp as the structure whose removal makes the rice harmful, whereas it is the removal of the subpericarpal layers which is attended by this undesirable result.

The photograph of a transverse section of selected grain (see illustration), which was prepared by the method described on a previous occasion, shows clearly the position of these structures. No real progress in the application of preventive measures can be made until there is available commercially an unpolished rice from which the pericarp has been removed.

Samples of both the rices used were analysed here, with the following results:—

	Red variety.		Silvery variety.
Protein	9·22 per cent.	....	9·41 per cent.
Fat	1·14 "	....	2·10 "
Carbohydrate	78·64 "	....	76·57 "
Ash	1·06 "	....	1·50 "
Moisture	9·94 "	....	10·42 "
P_2O_5	0·54 per cent.	....	0·79 per cent.

It has been consistently advocated that a rice which yields not less than 0·4 per cent. of phosphorus pentoxide may safely be regarded as a harmless one. Both these rices are considerably over this standard, but only in the red variety did any of the grains show a partial removal of the subpericarpal layers, and in the silvery variety the grain had only been deprived of its husk.

Had the enterprise of manufacturers been so far stimulated that removal of the pericarp and embryos from these grains had been effected, the results would have been equally satisfactory as regards the prevention of disease, the analysis would still have yielded results in accordance with the standard of safety, and the cosmetic appearance of the foodstuff would have been greatly improved.

Based on the standards previously adopted the ration was ample, and the scientific findings are thus in complete accordance with the actual facts. The results of this expedition as regards beri-beri are in striking contrast with those which obtained in all previous large expeditions into Dutch New Guinea, and taken in conjunction with the observations and experiments previously recorded the absence of beri-beri on this occasion can only be explained in one way—that is, the absence of polished rice from the diet.

In 1909 we demonstrated: 1. That beri-beri as it exists in the Malay Peninsula is caused by the continuous consumption, as the staple of diet, of rice from which all or the greater part of the subpericarpal layers had been removed by the process of polishing. 2. That a satisfactory measure of the degree of polishing to which a rice had been subjected is the estimation of its total phosphrus in terms of phosphorus pentoxide. 3. That a rice which yields less than 0·4 per cent. of phosphorus pentoxide cannot safely be permitted to form the staple of a diet in man. The further evidence now adduced is in complete confirmation of the accuracy of these statements.

Writers from Southern Nigeria and Brazil have recently disputed the accuracy of these conclusions, but we are unaware that any systematic observations have been carried out in these countries which would permit of a definite statement being made. When these are made it will be necessary to determine that the disease known in these countries as beri-beri is the same as the disease which is known by that name here. After all, beri-beri is only a form of polyneuritis, and students of this disease know that not only forms of polyneuritis of different origin have been called beri-beri, but that even diseases of which polyneuritis may not be a prominent feature, such as "epidemic dropsy," "Ceylon beri-beri," and the like, have been included under this name.

We have shown the mode of operation of the factors concerned in the etiology of beri-beri as it occurs in the Malay Peninsula. The painstaking researches of Highet and his colleagues have proved that the disease is of similar origin in Siam; and the work of Strong and Crowell has furnished similar evidence for the Philippine Islands. In regard to the Netherlands India these results are in complete accordance with those obtained by the very able Dutch investigators, Eijkman, Grijns, and Vordermann, who were pioneers in this field of research.

There is then in the countries mentioned an endemic and epidemic disease which presents certain clinical features, and is known to clinicians in these countries as beri-beri. For the occurrence of that disease the explanation has been discovered. *The disease can be prevented*, and, as we have shown elsewhere, may be cured. But, remembering the old adage that "prevention is better than cure," it is necessary to consider the practical application of preventive measures.

While fully appreciating the work of the scientists who seek to advance our knowledge on this subject, we must attend to the practical issues—namely, the reduction, if not abolition, of the heavy mortality which is yearly exacted by this disease. The determination of exact knowledge is arrived at by processes of abstraction and elimination. In the practical application of that knowledge the disturbing factors have to be reincluded, and it is undoubtedly the difficulty of this task in connexion with beri-beri which has delayed the application of preventive measures. But we are unable to convince ourselves that the difficulties are insurmountable. Political and commercial interests have too long been allowed to control the situation, and though such interests cannot be ignored they should not be given undue prominence. Resolutions on the subject have been passed at all three meetings of the Far Eastern Association of Tropical Medicine, and a resolution in almost identical terms was passed at the recent International Congress of Medicine. These pious expressions of opinion by learned societies have been, and are likely to be, without effect.

We have advocated the preparation of an unpolished rice—*that is, a rice from* which the husk and the pericarp have been removed, and which shall yield not less than 0·4 per cent. of phosphorus pentoxide. At Highet's suggestion such a rice has been produced in Siam, but in the absence of a demand for it, its preparation was not continued. The Governments of the countries concerned can create such a demand by making its use compulsory in all gaols and public institutions. In the Malay Peninsula that form of unpolished rice known as parboiled rice is used in practically all such places, but the use of that rice cannot be extended among the people, and an unobjectionable palatable unpolished rice must be substituted.

A clause in Government contracts, requiring the delivery of an unpolished rice conforming to tl standard, would give opportunity for observing ho such a standard worked in practice and would a in popularising a safe and wholesome foodsti among the people. No one believes that the intr duction of such a measure would be accompani by the immediate disappearance of beri-beri, but is the only way in which progress in its preventi seems possible, and it brings such prevention with the sphere of practical politics.

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Kuala Lumpur.

STUDIES ON GROWTH: THE INFLUENC OF DIET ON GROWTH, NORMAL AND MALIGNANT.

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THE idea of influencing the growth of tumours diet is not a new one. Jensen[1] pointed out in 1! that the diet plays an important rôle in the grov *of tumours, and especially in the formation* metastases. Haaland[2] has found that mice kept a diet consisting of cotton seeds, bread, oats, a milk were less resistant to an inoculated sarcoı than mice kept on a restricted diet of bread a oats. These results were corroborated a extended by Stahr,[3] Moreschi,[4] and Medigrecean Rous[5] has observed that mice kept on a diet of oa and rye-flour, maize, milk, and sugar in a quanti just sufficient to sustain life show a differeı behaviour when they are inoculated with tumou before or during this restricted diet. In th first case on animals with large tumours n effect could be noted; in the second case the growt of the tumour was slightly inhibited. These papers however, dealt with the influence of diet as a suppl of nutriment in general. Ehrlich's atreptic theor expounded in 1906 the interesting view that tumour require a specific food-supply. Thus[7] he consider that the reason why a mouse tumour fails to grov for any length of time in a rat is due to a lack of specific food-supply. The important work o Osborne and Mendel,[8] Hopkins,[9] and recentl McCollum and Davis,[10] has taught us to regard the growth, besides being due to a supply of nutritive constituents in general, *as due to a specific "growth* substance." Early in 1913 I pointed out[11] that these results, together with the gain in our know ledge as regards the vitamines, new important con stituents of our normal dietary, cannot fail to produce some effect on the investigation of cancer, and described experiments in this new direction.

Since then two references in the literature deal ing experimentally with the same subject can be found. The first paper is by Sweet, Corson-White, and Saxon,[12] who have described some experiments on mice and rats on normal diet and such devoid of vitamine. The latter diet had undoubtedly an inhibiting effect in the case of mice, where the percentage of takings was decidedly smaller, the incubation period longer, and the tumours smaller than in the case of normal diet. On the contrary, when rats were used very little effect was noted. The second part of this interesting work seems, unfortunately, to contradict the above-mentioned results. The second paper was by Hopkins,[13] which corroborates the results of the American authors. In his cases also the inhibition of the tumour growth was not a complete one. We see from these experiments that it is possible to inhibit the growth of tumours to a small extent, and a question arises whether this could not be applied for therapeutic purposes. We must state here from the beginning that this is as yet hardly possible, and the reasons for these conclusions will be discussed in this experimental paper.

I have recently found that the diet used for the inhibition of growth, which consists of caseinogen, starch, sugar, fat, and salts, produces in pigeons typical beri-beri,[14] and therefore must be regarded as devoid in vitamines. A similar diet can be obtained by using polished rice or a food sterilised in autoclaves at a high temperature. We know, however, that such a diet would unavoidably produce in man in the first case beri-beri, in the second case scurvy.

Showing the arrest of growth in a chicken fed on red (unpolished) rice. Age of chicken, 2 months.

Lately[15] I succeeded in arresting the normal growth of young chickens for the first time on a diet containing vitamines—namely, on red (unpolished) rice, a statement which will be corroborated in this paper. Here was a new hope for influencing the tumour growth without danger of producing a deficiency disease. I therefore inoculated the chickens arrested in growth with Rous's sarcoma, a very virulent chicken tumour which takes in nearly 100 per cent. The result was that the tumour grew undoubtedly more slowly, and was smaller in size than in controls on normal diet. The chickens died sooner than those not inoculated, although no metastases were found, which are very frequent in Rous's sarcoma, an observation which might, perhaps, suggest a greater avidity of the tumour for the food than that of the normal tissues. It seems, therefore, that the growth of tumours and the normal growth of young animals are, although to some extent analogous, not quite identical. The tumour seems to have a much more active metabolism, its avidity for food is greater than that of a normal tissue. These experiments must be considered as a series of orientation experiments in an endeavour to influence the tumour growth by diet. At the present time they do not admit of a practical application, but they suggest that, especially in cases of a quickly growing but not very malignant tumour, such a diet might have some slight inhibitory effect on the rate of tumour growth without producing a deficiency disease.

This work is being continued on broad lines to ascertain the influence of the various constituents of food on tissue growth.

Experiments.

In my first communication[15] on the same subject I have described some experiments on 14-day-old chickens (Plymouth rocks) in which I have arrested growth completely by means of an exclusive diet of red (unpolished) rice. The longest time it was possible to keep alive these stunted chickens was two months. A photograph (see figure) illustrates very well the size of such chickens compared with that of those on normal food. The addition of white bread to the red rice had no effect on the growth of the chickens. I hope to be able to keep the chickens with arrested growth alive for longer periods by a slight addition of some foodstuff to the diet.

Experiment I.—In my first communication the results of tumour inoculation in chickens with arrested growth were not recorded. In this experiment 84 chickens were used, which were divided into seven batches—namely:—

1. 12 chickens on red rice.
2. 12 " " " " *Inoculated after 33 days of the diet with Rous's chicken sarcoma.*
3. 12 " " " " With addition of the same sarcoma extract to the food.
4. 12 " " " " Addition of sarcoma extract, and inoculated after 33 days of this diet with the tumour.
5. 12 " " " " Addition of yeast to the diet, and inoculated after 33 days.
6. 10 " " Spratt's chicken food.
7. 9 " " " " " Inoculated after 33 days.

The result of the inoculation will be seen in the next table:—

Number of batch.	Number of chickens alive at the time of inoculation.	Number of birds bearing tumours.	Diameter of tumour.
2	5	1	¼ cm.
4	5	2	¼ cm.
5	7	5	1 cm.
7	9	8	3-7 cm.

In all these cases except the last no metastases were observed. From this experiment we see very clearly the effect of the addition of Rous's sarcoma and yeast to the diet of red rice, and the fact that no metastases were found must be especially emphasised.

Experiment II.—For this experiment 67 14-day old chickens (Plymouth rocks) were taken, the initial weight of which was 60 grm., in contrast to the previous experiment, in which 80 grm. was the average. They were bred late in the season, and were much more delicate and more difficult to keep alive. The chickens were divided into four batches, one of which was inoculated with the chicken sarcoma on the ninth day of the diet, instead of the thirty-third as in the previous experiment, a time in which the stock of vitamines from the food previous to the experiment could hardly have been completely used up, a fact which accounts largely for the results obtained. The results of the second experiment are summarised in the following table:—

	Not inoculated.		Inoculated.	
Days.	Number of chickens living.	Average weight.	Number of chickens living.	Average weight.
0	24	58 grm.	24	60 grm.
4	24	59 ,,	24	62 ,,
8	24	50 ,,	24	58 ,,
12	17	53 ,,	20	52 ,,
16	11	67 ,,	4	53 ,,
20	10	60 ,,	3	57 ,,
24	5	66 ,,	2	50 ,,

In all the inoculated chickens a tumour developed, except in 4 which died early. This shows that a diet consisting of red rice for nine days previous to inoculation does not prevent the tumour taking, and the growth of the tumours does not influence the growth of the chicken. But the post-mortem examination has shown that the tumour was in all cases, except two where it reached the size of 1½ cm., extremely small, and measured only ½ cm. on the average. Here, as in the previous experiment, no metastases were observed. The death-rate of the chickens inoculated between 3–8 days was a very great contrast compared with the controls.

In another two batches the influence of the addition of phospho-tungstic filtrates from rice polishings and yeast and the influence of the isolated yeast vitamine was also studied with a view to ascertain in which fraction of these foodstuffs the growth vitamine is to be found. The results are recorded in the next table:—

Number of chickens.	Days of experiment.	Average weight.	Nature of addition.	Number of chickens.	Days of experiment.	Average weight.	Nature of addition.
9	0	58 grm.	PWS-filtr., yeast.	10	0	58 grm.	Phospho-tungstic acid filtrate from rice polishings.
9	4	56 ,,	,,	10	4	58 ,,	
9	8	59 ,,	,,	10	8	59 ,,	
9	12	55 ,,	,,	10	12	53 ,,	
9	16	55 ,,	Vitamine 2·5 mgr. daily.	8	16	58 ,,	
8	20	57 ,,	—	8	20	61 ,,	
4	42	65 ,,	—	5	24	60 ,,	

In this experiment the addition of the phospho-tungstic acid filtrates was given instead of water and the vitamine injected intramuscularly. The result obtained shows that the phospho-tungstic filtrate fraction from foodstuffs is not likely to contain the growth vitamine, and suggests that the latter substance is likely to be chemically different from the beri-beri vitamine. A slight effect was, however, observed as regards the time that one was able to keep the young birds alive.

Experiment III.—The next experiment was performed with the view to determine the influence of vitamine-free diet on the growth of Rous's sarcoma in chicken. As vitamine-free di polished rice was chosen; the inoculation wa made 16 days after the beginning of this particular diet. Of 12 animals taken for the experiment, of which 11 were alive at the time of th inoculation, 5 showed tumours ½ cm. in diamete with the exception of one tumour which reache the size of 3 × 1½ cm. In none of these cases wer metastases found.

Experiment IV.—The same experiment wa repeated on a larger scale, controls being use which were fed on polished rice, with a small addition of yeast. For this experiment 15 chicken (Plymouth rocks, as in the previous experiments) age 3 months, were used and were inoculate eight days after the commencement of the particular diet. The result was the following. O 15 chickens fed on polished cooked rice onl inoculated, none developed a tumour. In the cas of addition of yeast, of 13 chickens alive at th time of the inoculation, from the same tumour a the polished rice birds, 8 developed tumours varying in size from 1 cm. to 3 cm. without showin traces of metastases. Experiments on rats inoculated with Jensen's sarcoma showed that a simila diet had identically the same effects as wa observed in fowls inoculated with the Rous sarcom

This whole experiment shows undoubtedly th great influence of vitamine-free and vitamine-containing diet on the growth of Rous's sarcoma.

Experiment V.—The experiments of Murphy an Rous[16] and Murphy[17] have shown that it is possibl to implant Rous's sarcoma into eggs containin chicken embryos and also in the eggs of pigeo and ducks. This shows that either the egg of a species is able to nourish the tumour, or that t embryo has not acquired yet the power of resistan to implanted tumours of foreign species. It wa thought that one-day old pigeons, having perhap a store of embryonic substances, would be susceptible to Rous's sarcoma. Sixteen one-day old pigeon bred in the institute were inoculated with Rous tumour on the second day after their leaving th shell; none, however, have as yet developed a growth. The experiment is being continued.

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A SIMPLE AND SUCCESSFUL MEASURE FOR THE PERFORATION OF A GASTRIC OR DUODENAL ULCER.

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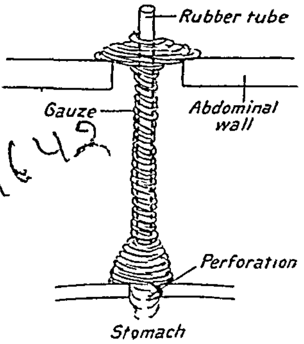
ABOUT a year ago, in a paper contributed to the Surgical Section of the Royal Society of Medicine upon the results of operation for the perforation of a gastric or duodenal ulcer and published in THE LANCET,[1] I mentioned a method of dealing with perforation by tamponade. This can be done without any time being spent in attempting to close the perforation by suture. The method is of easy application and can quickly and simply be used by those less experienced in surgery, a very important point nowadays, as so many men practise the art of surgery. Thus it is within easy attainment of the comparatively inexperienced surgeon attached to a minor provincial hospital. Most medical men may be suddenly called upon to operate for the perforation of a gastric ulcer, as, with the cussedness of things in general, the perforations will not occur when a skilled surgeon is about. It is wrong to await the arrival of such a man and so jeopardise the patient's chance of recovery. Last year (1912) a great example of this passed through my hands, an experience which a long journey back to town compelled me to dwell upon, so fixing it in my memory.

One morning I received a warning from Boston in Lincolnshire to hold myself in readiness to depart on a sudden journey there. Later in the day I was asked to come, and arrived in the late afternoon. The patient was a young man, recently married, who had suffered from his "stomach" for some years. About four years ago a gastro-enterostomy had been done by Sir Berkeley Moynihan, of Leeds. This had relieved him for a time. Then came a sudden attack of pain and great collapse. I saw him within 24 hours of the perforation. The abdomen was tightly distended with extravasated gas. There was no liver or any other abdominal dulness. To be short, there was no doubt of the diagnosis. But no operation was allowed by the friends until the surgeon arrived from London. When I arrived the poor man scarcely had any pulse at the wrist. Still, within 24 hours of the perforation so young a man could not be allowed to die without an effort being made to prevent it. So a hurried operation was done whilst the patient was infused with saline. It seems almost needless to add that the patient died after rallying for a time.

After the operation one of the medical men who were so kind as to have assisted me said, "Were not the patient's chances of life lessened by the delay in operation? Would not a less perfect operation which was not delayed be preferable to a more perfect but delayed operation?" Undoubtedly the delay had greatly lessened the patient's chances of recovery. And I must answer the second question by showing that a comparatively simple operation, well within the powers of most to do, is all that is necessary to enable such a patient to live. Also I must thank my professional colleague for his courtesy for referring to my work as a "more perfect but delayed operation." Indeed, I hope to show in this paper that there is no need to use the adjectives "less" and "more" perfect in connexion with an operation for the perforation of a gastric ulcer.

Such an operation must be carried out quickly, and should be shortly described. 1. Open the abdomen below the umbilicus. Examine the appendix and the pelvic viscera. Place a gauze packing in each loin and in the pelvis and leave them there. Free gas may or may not be seen, but odourless greenish-yellow fluid always is. 2. Open the abdomen above the umbilicus—e.g., through the inner part of the right rectus. Find the perforation, mop out any extravasation above and below the liver or round the spleen. Place one end of a gauze "plug" in the perforation to "cork it." Pack a layer or two of gauze plug over the ulcer and wind the rest round a rubber tube which leads out of the wound. (See figure.) 3. Partially close wounds after removing the gauze (draining the pelvis if there is much extravasation).



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Diagrammatic representation of the tamponade of a gastric perforation. This method is applicable to any perforation.

In the convalescence do not withhold morphia, but do not use it heedlessly. At first withhold liquids by mouth except water in ounce doses. It will wash the interior of the stomach. A patient on "rectal saline" is in no great want of food by mouth. In 48 hours the drains or "plugs" are removed under an anæsthetic and replaced in part. A gastro-enterostomy is not often needed, and no time is wasted in closing the perforation by suture. So frequently is the tissue round an ulcer too soft to hold stitches that, unless the ulcer can be excised, it is better not to attempt to close the perforation. It is very doubtful how long such stitching lasts, and though apparently secure at the operation it may be loose ten minutes after. Therefore there should always be a drain to the site of the perforation. Indeed, it might be said that the success which has followed the (apparent) suture of a perforation has probably more often been due to the gauze drain than to the suture. So that even better results may be expected when time is no longer wasted in "suturing" the perforation.

In my communication I mentioned that this proceeding had been done many times. Since that date I have done it several times more, proving again its

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[illegible] Medical College

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efficiency. Two instances only will I quote, because they impressed themselves on me by being done in one night and because they bear on the theoretical suggestion that the non-suture of a perforation must lead to the formation of a gastric fistula. This I may say hardly ever occurs, and when it does is only temporary.

One Sunday afternoon I was called to see a lady whose medical adviser, Dr. Ross, had diagnosed the perforation of a gastric ulcer. When I saw her there was nothing except a history of "neuralgic dyspepsia" and tenderness in the epigastric region to suggest that the abdominal calamity originated in the upper abdomen. All the physical signs—distension, rigidity, dulness, immobility, &c.—were in the lower abdomen. On opening the peritoneal cavity nothing of note was found in the lower abdomen. Nothing being found, the upper abdomen was opened, and a perforation found near the lesser curvature on the anterior wall of the stomach. The perforation was large, surrounded by a sodden area of inflamed tissue, and much fluid was issuing from it. The perforation was tamponed in the way described above. Forty-eight hours after the operation the "gastric" gauze was changed, when gas and fluid escaped from the stomach. The issuing fluid smelt like gastric juice, and was more copious when fluid was taken by mouth. It was only mildly septic and interfered little with the healing of the wound. This fistula was present for about ten days, when it healed spontaneously. On my return home, as I opened the front door of my house the telephone rang from Colney Hatch Asylum, where Dr. S. J. Gilfillan told me a nurse was suffering from the perforation of a gastric ulcer. In her case, also, the diagnosis was simple. The operation was also, and was carried out substantially as narrated above. The perforation was much smaller than in the lady just mentioned. Her recovery was very prompt. Her indigestion vanished and her general health has improved very greatly. In neither case was a gastro-enterostomy necessary at the time or has proved to be so later. Indeed, I suspect that in the absence of (narrowing the stomach by) suture, a gastro-enterostomy is less often required than if the perforation is sutured.

These two reported instances are specially selected only because they happened to take place on the same night, and by preventing my getting to bed stamped themselves on my memory as possible examples of results of tamponading the ulcer. Its advantages I will briefly summarise. 1. The operation is simpler for the operator to do. 2. The operation is quicker, particularly in less experienced hands. 3. In consequence of being simpler and quicker, the patient more easily gets over it—that is to say, the mortality is lower. It certainly is so amongst my own figures. 4. A gastro-enterostomy, primary (at the time of the operation for the perforation) or secondary (at a later period), appears to be less frequently required. 5. Complications—e.g., pelvic abscess, subdiaphragmatic abscess, &c.—are in my experience less frequent. Fears of more than a temporary and brief gastric fistula may be dismissed.

If such a summary is in its turn summarised it may be said that such an operation offers the patient more chance of recovery, particularly in the hands of an operator of no great experience. Of course, in the hands of experienced and facile operators the excision of the ulcer, followed by suture of the wound, and perhaps gastro-enterostomy, may be better and result in the recovery of the patient. But for more ordinary patients, surgeons, and circumstances the method of tamponade is better.

Harley-street, W.

NOTE ON THE TREATMENT OF SCIATICA.

BY JOHN J. GRACE, F.R.C.S. ENG.,
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IN view of the great and, I believe, increasing prevalence of sciatica, and the often comparatively poor results obtained from treatment by rest, injections of various kinds, and internal medicine, I think it may be of interest to report the results attained by me during the past year by physical measures—namely, by the use of the 500 candle-power lamp and static electricity. Nine cases have been treated by these methods, eight of which made a complete recovery, but only six of them deserve special mention, as the other three were early acute cases, and the probability is that they would have recovered promptly with rest, drugs, ionisation, or other treatment.

The short history of the six cases is as follows:—

CASE 1.—The patient, aged 53, had lumbago some four weeks previously, but this had got better. He now had cramp in calf and thigh muscles, and severe pain on certain unguarded movements ran down the back of the thigh and was worst at the knee. Knee-jerks present. A patch of anæsthesia, described by him as a "dead patch," on the outer and lower part of the leg, down to the ankle. This patient showed improvement after two or three treatments, but was slow in making a complete recovery. The interesting point was that the "dead patch," which he had had for years, apparently completely recovered.

CASE 2.—The patient, aged 53, who was referred to me for electrical treatment by Dr. T. J. Horder, had had sciatica for two years; had been treated by ionisation, been to the Riviera and Harrogate, &c. Was never very bad, but only exceptionally free from pain for a whole day. He improved very much at first, and then seemed to stick, and just as I was about to despair he recovered completely. This patient was taking medicine as well as having the treatment given by me.

CASE 3.—The patient, aged 64, had sciatica 18 months ago. He went to Vernet-les-Bains and was cured; returned to England and was exposed to cold, with the result that his sciatica returned 13 months ago. The pain was not severe, but always bothered him when he got up in the morning. Slight tenderness over the sciatic nerve between the great trochanter and tuberosity. This patient showed no improvement whatever. His pains became less marked in the region of his sciatic nerve, and increased in the lumbar region and in the anterior part of the thigh. I took a skiagram of the hip-joint, and as there was some evidence of osteo-arthritis in the joint I thought it of little use to continue the treatment. I understand that now, six months later, he still has the pain.

CASE 4.—The patient, aged 57, who was referred to me for electrical treatment by Dr. H. W. McClure, had had sciatica for three months; at first very severe pain night and day; now very severe at times, but not continuous. Always worse at night so that sleep was prevented. There were marked wasting and fibrillary contractions of the muscles of the thigh, less wasting of the calf. Knee-jerks equal. Tender point situated over the sacro-sciatic notch, the internal popliteal, and in the outer side of the calf. Could walk only with the aid of two sticks. After three treatments this patient was having good nights, and after 18 treatments was completely cured.

CASE 5.—The patient, who had had two bad attacks of sciatica lasting for months, came to me complaining of lumbago, but next day said he had cramps in the calves of his legs, and that his previous attack of sciatica had begun in the same way. There was a definite tender point over the left sciatic notch. Treatment was applied here, and also on the right side. After 12 treatments he was able to attend two shoots without apparent damage or relapse.

CASE 6.—The patient, aged 32, three weeks ago with a friend was lifting a heavy weight; the latter let go and the whole weight coming on the patient he strained his back. He had pain in the back for a few days, and this was followed by such severe pain in the sacro-iliac joint that he could not turn in bed, and could get no sleep for five nights. Now he has pain down the outer side of the thigh and calf, and pain in the dorsum of the foot. He could not bend the hip-joint with the knee-joint extended. There was a definite tender point just at the gluteus margin over the sciatic nerve. The patient had a good night after the first treatment, and now after 10 treatments is practically well except for the stiffness.

I should add that all these patients went about their ordinary avocations, as far as they were able to do so, while the treatment was going on. I do not discourage a moderate amount of walking, nor do I object to attention to business. What I do find detrimental to most people is travelling by train or motor car.

The method adopted is as follows. First it is necessary to find the definite tender point or points in the line of the sciatic nerve. These can be found (1) by direction of the patient, (2) by pressure, (3) by the use of the vibrator, and last and best by the use of the static spark; but this latter, if attempted at the first consultation, may unfavourably impress a timid patient.

Having found the tender point, the parts around it are exposed for 20 minutes to the rays of the 500 candle-power light; this is applied as close to the bare skin as the patient can stand the heat, and by turning away the light for a moment, or by passing the hand lightly over the skin a considerable degree of tolerance can be established. The obvious effect is hyperæmia. After 20 minutes' exposure to the light the patient is seated on a chair on the insulated platform. An electrode of some easily moulded metal—I use pewter—is applied over the tender spot, usually about half way between the great trochanter and the tuberosity of the ischium, or over the sacro-sciatic notch. The size of the electrode I generally use is 3½ by 4½ inches, but if the part is very tender a larger electrode will be better borne.

An adequate static machine should be capable of giving a 12-inch spark in all weathers between the terminal balls of the prime conductors when the patient is connected to the machine, and this spark should be capable of regulation down to ½ inch, or less for particularly tender points. With the electrode applied to the patient's skin and connected by a wire to the positive side of the static machine, the negative side being grounded and the spark gap closed, the motor is now started and the spark gap gradually opened, keeping the number of sparks passing at the gap at not more than 300 a minute at the outside, while 200 a minute is even better.

The operator will not have opened the spark gap very far, in all probability, before the patient will complain of pain. When this point is reached the spark gap is closed again until the patient says he feels just a little tenderness, and at this point it is kept for five minutes or so, when the spark gap can again be widened, this time with probably less discomfort to the patient. The treatment by the static wave current is kept up for 20 minutes, or less if the patient shows signs of fatigue. I then go on, if I deem it advisable, to give a few static sparks to the muscles of the buttocks and thigh, to any tender points in the course of the nerve, and to a tender patch probably due to fibrositis, which I often find in the gluteal or lumbar region in these cases.

These sparks are given with the patient standing on the insulated platform, which is connected to the negative side of the machine, the positive side being grounded. A ball electrode held in the hand of the operator and also grounded is approached to within 4 or 5 inches of the spot to which the spark is to be applied. The patient feels a smart blow or cut as with a light whip, and is not apt to appreciate the treatment at first, but after experiencing the relief these sparks bring will often ask to have them repeated and point out the spot where they should be applied.

This ends the treatment, which should be applied daily at first until marked improvement is obtained, when a treatment can be given twice weekly, bi-weekly, and finally stopped. This treatment is equally successful in neuritis of the arm, or in uncomplicated neuritis anywhere when a definite tender point can be found.

As to the rationale of the treatment it is probable that the light causes hyperæmia of tissues deeper than the skin. This hyperæmia followed by the deep massage effect of the static wave current would remove and carry off in the blood current the plastic exudate which is probably thrown out around the nerve in sciatica. The same forces would act in the same way in removing patches of fibrositis.

In addition to this, however, it has been shown that the static wave current increases the hæmoglobin contents of the red corpuscles and increases the elimination of solids in the urine. While I cannot say that I have myself made the necessary observations to confirm these statements, the condition of improved health and vitality in patients who are taking this treatment is so obvious, and so frequently pointed out by them with every evidence of satisfaction, that I cannot feel any doubt but that, in addition to the local effects, general metabolic effects of a beneficial character are taking place in the organism.

" Welbeck street, W.

TWO CASES OF POST-OPERATIVE HEMIPLEGIA.

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HEMIPLEGIA as a post-operative complication must be so rare that the following two cases which occurred in my practice almost within the same week seem to merit reporting. Both were patients at the Government Hospital, Alexandria.

CASE 1.—The patient was an Egyptian woman, aged 40, suffering from a large fibroid of the uterus. Operation was performed on Sept 15th, 1913, in the raised pelvis position. The tumour involved the supravaginal cervix, which was greatly expanded, and was associated with a tubo-ovarian abscess on the right side. The operation was extremely difficult and lasted almost two hours. A gauze drain was left in for 48 hours. The wound healed without suppuration, but for the first week following operation the temperature was slightly raised, ranging from 37·6° C. (evening) to 37·2° (morning). The operation was done at 9 A.M. At 5 P.M. the patient complained of pain in the right arm and leg, which by the next morning had given place to complete loss of power and sensation. Four days later there was some return of power in the arm, whilst sensation commenced to come back on the twenty-fourth day. Recovery from the paralysis in the arm was good and rapid. Improvement in the lower limb was much slower and less complete, but she left hospital on Oct. 29th walking fairly well with the aid of a stick.

CASE 2.—The patient was an old woman with a large ovarian cyst almost filling the abdomen. The cyst wall had ruptured, setting free a large quantity of colloid material into the general peritoneal cavity. The tumour had evidently undergone malignant changes, and masses like boiled sago had infiltrated the uterus and pouch of Douglas. The cyst was removed on Sept. 22nd, 1913. The operation was simple and lasted less than an hour; there was no shock. The Trendelenburg position was not employed. The operation was performed at 9 A.M. On the following morning she was noticed to have right hemiplegia (including the face) with aphasia. Coma with difficulty in swallowing appeared on the next day, and death took place on the morning of the 26th. On the evening of the 25th the temperature, which had up to that point remained normal, rose to 37·7° C.

Post mortem the entire left cerebral hemisphere showed white softening; there were no signs of hæmorrhage. The aorta above the valve cusps presented slight atheromatous changes. There was no sign of sepsis in the peritoneum.

The occurrence of two such rare accidents so near each other at first suggested there must be some cause common to the conditions under which both operations were done. Beyond the fact, however, that the temperature in the theatre was extremely high and the humidity great, there was no striking peculiarity that I am aware of. Much the same conditions occur every August and September in Alexandria, and besides, on one of the intervening days (Sept. 18th) an ovariotomy for dermoid cyst with twisted pedicle was done by the same *personnel* and followed a normal course.

As regards the cause of the hemiplegia, one naturally first thought of the three common possibilities: hæmorrhage, thrombosis, and embolism. There appears to me to be no special reason why cerebral hæmorrhage should occur *after* operation, although one can imagine that at the time of operation the Trendelenburg position or vomiting might favour such an event. The post-mortem findings, too, in Case 2 put this out of the question. If embolism was responsible one has to imagine that a thrombus displaced from the pelvic veins either traversed the lung capillaries without producing symptoms, or else passed directly to the brain *viâ* a patent foramen ovale or ductus arteriosus. At the necropsy the foramen ovale was not noticed to be patent, but unfortunately the hospital pathologist was not present, and my own attention was not especially directed to that point.

Schenk read a very complete paper on Thrombosis and Embolism following Operation at the American Gynæcological Society in 1913, and the subject was also touched on in the recent discussion on Bland-Sutton's paper on the Visceral Complications in Hysterectomy for Fibroids at the Medical Society of London.[1] One fact appears from the study of these papers, and that is that thrombosis and pulmonary embolism are markedly more common after myoma than after other pelvic operations. Thus, in laparotomies for pelvic conditions of all kinds thrombosis occurs in 2·28 per cent., whereas after myoma operations the percentage rises to 3·7, or even 5 per cent.

With regard to certain theories that have been put forward, it may be mentioned that in both my cases the abdominal wounds were sutured in layers. In the hysterectomy case the retraction of the abdominal walls was vigorous, in the ovariotomy case slight or not at all. It would be out of place to go into the causation of post-operative thrombosis in general, but it appears to me that the anæmic condition of most cases of fibroids may be a predisposing factor, and, furthermore, if slowing of the blood stream be accepted as one of the causes, may not the modern fashion of adopting a semi-recumbent or sitting-up posture increase the tendency in the same direction?

Alexandria.

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[1] THE LANCET, Nov. 1st, 1913, pp. 1249, 1256.

SECONDARY HÆMORRHAGE FROM DEEP EPIGASTRIC ARTERY AFTER OPERATIONS FOR APPENDIX ABSCESS.

BY J. O. SKEVINGTON, F.R.C.S. ENG.,
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I AM not aware that attention has been called to this most serious happening.

On May 15th, 1913, I was called in by Dr. H. E. Giffard, of Egham, to operate on a boy, aged 16, suffering from a large appendix abscess. A secondary operation was required to open a collection of pus per rectum a week later. The boy was making good progress till the evening of the 25th, when I received an urgent message that he was bleeding badly. I found he had lost a large amount of blood, and it was spurting from the lower angle of the abdominal wound. This hæmorrhage was controlled by compression between the finger and thumb till chloroform could be administered. Two deep thread sutures were then passed through the whole thickness of the abdominal wall at the inner edge of the wound, and all hæmorrhage ceased. The boy made a good recovery.

The second case occurred recently and was seen in consultation with Dr. D. H. Anderson and Dr. T. E. Cottu of Maidenhead. The patient, a strong young man, aged 28, had been operated on by Dr. Cottu on Dec. 3rd, 1913, for appendix abscess, the incision being the anterior vertical one through the rectus sheath. He made excellent progress till the afternoon of the 13th, when a large amount of hæmorrhage occurred. Dr. Cottu examined the wound under an anæsthetic, and as the condition of the wound forbade any hope of direct ligature succeeded in arresting the bleeding by plugging. The patient's condition was very serious. When seen the next day in consultation this plugging was removed and there were no signs of hæmorrhage. As the whole area was in a most septic condition, it was judged advisable to keep the patient under close observation and not to disturb the parts further. On the evening of the 16th hæmorrhage again occurred and came from the deep aspect of the abdominal wall at the lower angle of the wound. Ligatures failed to hold, and two large pairs of artery forceps were left on the bleeding spot. This controlled the hæmorrhage, but in spite of transfusion the patient never rallied and died two hours later.

Conclusions.—Both operations were done by the vertical incision through the rectus sheath. In future in all cases in which this incision has to be carried somewhat low down, when the drainage-tube of necessity must lie in close proximity to the deep epigastric vessels, it is my intention to divide these vessels between ligatures when first seen. If immediate suture fails to arrest the bleeding it seems to me the obvious course is to tie the artery through a separate incision. In the first case immediate suture sufficed. In the second case the state of the tissues and the almost moribund condition of the patient forced the expedient of leaving on the bleeding spot a pair of forceps.

Windsor.

RUPTURE OF THE HEART BY EXTERNAL VIOLENCE.

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CONSIDERING the great frequency of injuries to the thorax, it is remarkable how seldom the heart suffers in consequence. Wounds of the heart muscle may be inflicted by instruments or bullets penetrating the thoracic wall from without, and spontaneous rupture of the heart has been described, usually associated with a pathological condition of the muscle. Injuries to valve segments have resulted in rare cases from blows upon the chest, and Bernstein and Ravenstorf in Germany have both described cases of rupture of the heart by traumatism. Rupture of the heart as the result of external violence to the chest walls is undoubtedly an event of sufficient rarity to warrant its occurrence being recorded.

The patient in the case now reported was brought into hospital in a dying condition, and only survived a few minutes. She was a sparely built, emaciated woman between 60 and 70 years of age; her scalp was almost completely replaced by old cicatricial tissue, which extended down over the forehead and cheeks, and almost wholly replaced the left auricle and closed over the external auditory meatus. No external bruising was present, and the only history obtainable was that of having been knocked down by a cart, one shaft of which had probably struck her in the right mammary region. Possibly an hour had elapsed from the time of the accident till her death in the reception room of the hospital.

A necropsy was made 48 hours later, and the following report summarises the conditions found.

Thorax.—The second, third, fourth, fifth, and sixth ribs of the right side were fractured, each about ½–¾ inch from the costo-chondral junctions. The anterior fragments of the third and fourth right ribs were driven inwards into the thoracic cavity for a distance of about ½ inch, but the costal pleura over their ends was not ruptured. There was some hæmorrhage into the subpleural tissues over the sites of these fractures. The fourth right costal cartilage was fractured through its junction with the sternum. From the lower border of this latter fracture another fracture arose which passed across the sternum to terminate at the upper edge of the fourth left costal cartilage. There was no tearing of the tissues in the immediate neighbourhood of this sternal fracture. The sixth left rib was fractured at a point 1½ inches from its costo-chondral junction; the costal pleura was thereby torn, and there was a little hæmorrhage into the subpleural tissues in the immediate neighbourhood.

Pericardium.—About 10 ounces of fluid blood were present in the pericardial sac, but the pericardium was otherwise healthy.

Heart.—There was slight general dilatation of the heart, and the cardiac muscle was pale and soft. A microscopical examination of the cardiac muscle revealed some brown atrophy of the muscle fibres, but this could not be considered more excessive than one would expect in an individual of this age. No valvular lesions were present, and the coronary arteries were healthy. Patches of atheroma were present throughout the aorta. In the anterior wall of the left ventricle there were two ruptures, half an inch apart, extending across the wall parallel to one another in a horizontal and downward direction from the middle line outwards. The edges of these wounds were somewhat irregular and ragged.

The *upper wound* measured 1½ inches long on its epicardial surface, and extended right through the wall of the left ventricle and caused some tearing of two branches of the anterior papillary muscle. Its endocardial orifice measured only about ¾ inch. The inner end of this wound was situated ½ inch to the left of the interventricular groove and 1 inch below the auriculo-ventricular groove; its outer (or left) end was 1¼ inches below the auriculo-ventricular groove and reached to within ¼ inch of the left border of the heart. The *lower wound*, lying ½ inch below the upper, was ½ inch long and extended to a depth of only ⅛ inch. Its inner end was about the same distance from the interventricular groove as that of the upper wound. Above the upper wound, extending up to the auriculo-ventricular groove, there were some patches of hæmorrhage under the epicardium, and there was also hæmorrhage into the tissues of the superior mediastinum around the origins of the great vessels from the aorta. There were no other injuries present anywhere.

The *lungs* showed emphysema and some old cicatrisation at both apices with a few adhesions. The *spleen* was slightly enlarged and soft, and the *kidneys* granular, but none of the other organs showed anything of note.

The case presents several features worthy of remark. There can be little doubt that the blow on the chest was delivered with considerable violence, yet there was no bruising visible externally. The chest wall was freely mobile and the transverse fracture of the sternum corresponded in level more or less closely with the rupture of the wall of the left ventricle, yet the parietal pericardium was intact, and there was no tearing of the tissues in the immediate neighbourhood of this fracture. There was no gross disease of the coronary arteries or of the cardiac muscle, and the brown atrophy made out microscopically in the fibres of the latter was probably normal for a person of such years. Considering these facts along with the characters of the wound—the irregular and ragged edges—and the tearing of two branches of the anterior papillary muscle, it seems reasonable to assume that the mechanism of the lesion was rupture by bursting.

Glasgow.

CENTENARIANS.—There are at least four centenarians living in Surrey, according to the *Surrey Advertiser*—Mrs. Stovold, of Elstead, and Mrs. Ann Peters, of Great Bookham, who have just celebrated their hundredth Christmas; Mr. John Durant, of Weybridge, who attains his 104th birthday on Feb. 2nd; and Mr. John Whitehead, of Wimbledon, who is 100 years of age. Mrs. Rose Wood, of Chertsey, died on Dec. 31st last. She would have completed her 103rd year had she lived till March next. Miss Emma Elkins, who in July last entered upon her 101st year, died recently at Prestbury, Gloucestershire.

Medical Societies.

LIVERPOOL MEDICAL INSTITUTION.

Hypermetropic Astigmatism.—Sclero-corneal Trephining for Glaucoma.—New Operation for Treatment of Salpingitis.—Some Factors in the Spread of Typhoid Fever.

A MEETING of this society was held on Dec. 18th, 1913, Mr. **ROBERT JONES**, the President, being in the chair.

Dr. **R. E. HARCOURT** related the case of a youth, aged 19, in whom Hypermetropic Astigmatism was present, with hystero-epileptic fits and headaches over a period of six weeks. Rest in bed caused the fits almost to cease, and correction of the refractive error resulted in complete cessation of fits and headaches.—Dr. **H. ARMSTRONG** mentioned the case of a child, aged 4, in whom homicidal mania was present along with hypermetropia and squint. In this case correction of vision had also resulted in complete disappearance of all mental symptoms.

Dr. **A. NIMMO WALKER** read a note on Further Experiences of Sclero-corneal Trephining for Glaucoma. He described three important modifications of the operation originally performed by Lieutenant-Colonel R. H. Elliot; the flap was altered in shape, being made a small segment of a large circle parallel to the limbus; the trephine hole was made further forward, and the iris was allowed to prolapse into the trephine hole, a small portion being snipped out with scissors and the prolapsed portion allowed to fall back into its place. Dr. Walker was of opinion that this operation was by far the best treatment yet discovered for glaucoma. He did not claim that it was an infallible cure for all cases, but it enabled the surgeon to advise an operation which had a good chance of arresting the disease without causing mutilation of the eye or damage to the sight. A patient was shown on both of whose eyes the trephining had been performed.—Mr. **R. J. HAMILTON** had seen two cases where the drainage had not continued after the trephining and iridectomy had then been done. He had had good results in other cases.—Mr. **HUGH E. JONES** had found iridectomy satisfactory, but considered that in some cases tension was kept down better by trephining.—Dr. **EDGAR STEVENSON** considered that the introduction of the trephining operation was the most important step forward in ophthalmology since von Graefe introduced iridectomy. The operation was all British.

Dr. **W. BLAIR BELL** described a New Operation for the Treatment of Severe Salpingitis in Young Women. As the internal secretions of the ovary and the menstrual function were important in the general condition of young subjects he did not in them approve of complete removal of the tubes, ovaries, and uterus. By taking a wedge-shaped portion of the fundus along with one ovary and both tubes he removed the diseased structures, and left enough to be of use to the patients.

Dr. **C. O. STALLYBRASS** read a paper on Some Factors in the Spread of Typhoid Fever. He showed by large charts that the great fall from 1300 cases in 1895 to 124 in 1912 was coincident with the fall in the number of courts and alleys in the city. The greater facilities for the isolation of the sick, the supervision of the milk-supply and that of other foodstuffs, and the removal of fly-breeding refuse had also contributed. Many cases were imported, mainly sea-borne, and these might be the source of small local outbreaks, especially where one of the patients was a chronic carrier. Dr. Stallybrass had found shell-fish cases to be due mostly to mussels from Ireland. Oysters had not for some time given rise to typhoid fever so far as was known. In his opinion typhoid fever was chiefly spread by direct contact, fingers of a patient or his attendants being soiled by excreta, and in many cases food prepared by the soiled hands led to spread of the disease. He thought it possible that flies might carry germs to food and so cause infection. It might yet be proved that biting insects also spread the disease.—Dr. **E. W. HOPE** said that Dr. Stallybrass's careful work proved and confirmed the views of the causation of typhoid fever. It had been suggested that the disease was decreasing because the population was acquiring immunity, but the facts presented proved this was not the case; 65 per cent. of notified cases had had their origin determined accurately.

DEVON AND EXETER MEDICO-CHIRURGICA SOCIETY.—A meeting of this society was held at the Roya Devon and Exeter Hospital on Dec. 12th, 1913, Mr. Russel Coombe, in the absence of the President, being in the chai —Dr. Ransom Pickard and Mr. G. L. Thornton showed case of Third Cranial Nerve Paralysis with some unusua points of interest. The patient, a married woman aged 46 was suddenly seized with severe pain in the head and back o the evening of Dec. 19th, 1912. Mr. Thornton was called i shortly after the onset. The patient had vomited and ha felt as if her whole body was in a vice, but the pain wa now most severe at the vertex. She had taken a dose o castor oil which might possibly have accounted for th vomiting. The temperature and pulse were within norma limits, and a routine examination failed to reveal an definite cause for the pain. A freely movable right kidne was noted and a Dietl's crisis was queried. The family an personal histories were unimportant, the only point to not being a chronic nasal catarrh of the left nostril and deflected septum to that side, for which she had bee treated. On the following day the headache was relieved although it had not entirely disappeared, but the pain no was chiefly referred to the lower sacral region, and sh could not sit long in one position. This pain became aggra vated on Christmas Eve, and when playing cards she notice for the first time that the figures ran together and she also sa double. By 10 P.M. the left eyelid had completely droppe When called to see her on Dec. 26th there was found to b complete paralysis of the left third nerve. The temperatur and pulse were normal. There was no reflex alteration c abnormality other than that related directly to the affecte nerve. The patient's subjective symptoms were pain in th back, of lumbago nature, and some stiffness. The case wa watched carefully for some days, the patient being kept i bed. No rise of temperature was noted, and the pain in th back gradually abated, and but for the eye symptoms th patient was in her usual good health in three weeks fro the onset of the illness. Total paralysis of the ner persisted until May, when slight raising of the l was first noticed, and from this time onwards gradu progress was made as regards the movements of the muscl involved. Improvement during the last three months ha been almost at a standstill. The fundi oculi had been foun normal throughout. The points of interest were chiefl centred in the diagnosis. The onset suggested an acut infection, but the absence of pyrexia was certainly unusual. Polypi in addition to the nasal discharge had been noted in the left nostril and the possibility of nasal infection could not be ignored, although it was difficult to understand how the accompanying nerves should have escaped when considering a sphenoidal sinus infection. In the same way hæmorrhage was unlikely. Other suggestions had included a rheumatic origin comparable with that in Bell's palsy. The pain in the back could not be ignored, although the symptoms present were not sufficient to warrant a diagnosis of meningitis. Specific disease could be disposed of entirely, as apart from the extreme improbability the Wassermann test had been found negative by a competent authority. The treatment adopted had been salicylate with hydrargyri perchloridum and iodide, and later strychnine. Locally galvanism had been applied to the lid and directly to the eyeball, as suggested by Dr. Risien Russell.—In the discussion which followed Dr. W. Gordon pointed out the necessity for a guarded opinion when these cases were seen at an early stage. The possibility of disseminated sclerosis should be borne in mind. As regards the case in question, a rheumatic origin appeared to be the most likely diagnosis.—Mr. R. A Worthington asked if the nasal discharge had been purulent in character and whether investigations had been made with regard to the condition of the sphenoidal sinus.—Dr. Gordon read a paper on the Value of the Cardiac Sign in Cancer—50 consecutive cases with 8 per cent. of error.—Dr. R. V. Solly, in discussing the paper, pointed out the unreliability of the presence of Foule's cells in the peritoneal exudate.—Mr. Worthington said there were three points of view in considering changes in cardiac dulness—(1) heart's diminished size; (2) emphysema; and (3) dislocation of the heart. The pericardium may become laxer under certain conditions, and the attachments of the heart in like case loosened. It was possible to his mind that the sign was due to slackening of the pericardium and to some extent relative to advancing age—

a component factor in loosening of ligaments and in the incidence of cancer.—Dr. F. A Roper thought that more thorough investigations should be made of gastric contents in suspected cases of cancer. He also alluded to the alkalinity of the blood test and to Salmon's test for total free nitrogen in the stomach contents —Dr Gordon replied —Mr O E W Bell showed a Pregnant Uterus which he had removed owing to complications related to the presence of a large fibro myoma —Dr. J. D Harris exhibited X Ray Negatives as viewed with the radioscope.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY —A meeting of this society was held in Manchester on Dec 19th, 1913, Dr W E Fothergill, the President, being in the chair.—Dr A Donald (Manchester) showed a specimen of Endothelioma of the Cervix occurring in a woman aged 25, removed by abdominal panhysterectomy —Dr W Blair Bell (Liverpool) showed a specimen of an Unusual Malformation of the Uterus This uterus was apparently normal except for a small left horn to which were attached the round and ovarian ligaments Dr. Bell also showed a specimen of an Ampullary Pregnancy on the point of rupture —Dr H Clifford (Manchester) reported a case of Concealed Accidental Hæmorrhage accompanied by hæmorrhage into the peritoneal cavity apparently due to rupture of vessels in the right broad ligament following the great and acute distension of the uterus The patient was admitted to hospital in a very serious condition, and after a short rest it was decided to open the abdomen and remove the uterus This was rapidly done and for a short time the patient rallied, but eventually died six hours after the operation The urine was loaded with albumin —Dr H Leith Murray (Liverpool) and Mr R. M Littler (Southport) recorded a case of Adeno chondrosarcoma of the Endometrium occurring in an unmarried woman aged 46 Microscopical examination of a polypus suddenly extruded from the cervix rendered the diagnosis easy and a wide hysterectomy was done Regular glands, sarcoma spindles, islands of hyaline cartilage, and possibly fat cells were present There was no invasion of the cervix, the muscularis of the body, or the appendages

BRISTOL MEDICO-CHIRURGICAL SOCIETY —A meeting of this society was held on Dec 10th, 1913, Dr. P Watson-Williams being in the chair —Mr H Elwin Harris showed a child with Chronic Tertiary Ulceration of the Scalp —Dr J O Symes showed a patient with Multiple Swellings in and on the Tibia and other Bones, with a proteid body in the urine The patient was improving with antispecific treatment, and the Wassermann reaction was positive —Dr E C Williams stated that an infant, aged 5 months, with a Gumma of the Femur, which he was to have shown, had died 41 days after an injection (intramuscular) of 0 05 gm of neosalvarsan —Dr Carey F Coombs, in showing a case of Associated Tabes Dorsalis and Aortic Regurgitation, remarked that this was the not uncommon "Babinski" syndrome, and that syphilis was probably the cause of aortic disease in 75 per cent of cases —Dr. Bertram M H. Rogers showed an infant, 2½ months old, in whom all symptoms had cleared up and the child put on weight after an intramuscular injection of 0 05 gm of neosalvarsan —Dr Watson Williams showed patients illustrating typical tertiary syphilitic lesions of the nose, pharynx, and larynx —Professor J Michell Clarke showed a case of Associated Congenital Syphilis and Graves's Disease, and said that he regarded the simultaneous occurrence as accidental —Dr J R Charles showed a case in which there were symptoms of tabes in association with plumbism and a positive reaction might possibly be due to the lead —Dr J R Kay-Mouat among other specimens showed one of the site of injection of salvarsan 19 days after injection The tissues showed the presence of arsenic in the centre with a surrounding area of hyperæmia and leucocytic infiltration

THE ASSOCIATION OF ASSISTANT MEDICAL OFFICERS OF ASYLUMS IN ENGLAND AND WALES —The following office-bearers in this newly formed association have been elected.—Chairman. E L Dunn, Berkshire Asylum, Wallingford Honorary treasurer W Maule Smith, 2, Victoria-road, Bromsgrove Honorary secretary: F. J Stuart, Berry Wood, Northampton.

Reviews and Notices of Books.

Researches on Rheumatism.

By F J POYNTON, M D Lond, F R C P Lond, Senior Physician to Out patients at University College Hospital, London, and at the Hospital for Sick Children, Great Ormond street, Physician in Charge of the Children's Ward, University College Hospital; and ALEXANDER PAINE, M D Lond, D P H, Director of the Cancer Hospital Research Institute, London London J. and A. Churchill 1913 Pp 461 Price 15*s.*

IN this volume Dr. F. J Poynton and Dr. Alexander Paine have collected together the chief papers bearing upon a research on the subject of rheumatism with which they have been occupied for a period of 15 years The results obtained by these two observers are well known, and as their published writings are scattered through the medical press for many years, the authors have performed good service in bringing them into one volume.

The greater part of the book is concerned with the details of the acute rheumatism of childhood, this condition being chosen because it is frequent in its occurrence and also not uncommonly fatal, and thus clinical, pathological, and histological facts can be obtained As is well known, Dr. Poynton and Dr Paine maintain that acute rheumatism is a specific disease caused by a definite micro organism. Their views have met with a considerable amount of criticism owing to the negative results that have been obtained by some bacteriologists, but, on the other hand, they have been corroborated by others. One great difficulty has been to define the condition acute rheumatism, for unfortunately numerous disorders are covered by the all embracing term "rheumatism" The authors, however, save themselves from falling into the trap of believing that everything met with showing the least resemblance to acute rheumatism is in reality of that nature

The work is divided into three parts Part I contains papers published between 1898 and 1900, previous to the demonstration of the diplococcus, which Dr. Poynton and Dr Paine now look upon as the causal organism of acute rheumatism. In Part II. the papers deal with the demonstration of the bacterial cause of acute rheumatism, the nature of the rheumatic processes in man and animals, the bearing of the results obtained upon conditions allied to the rheumatic, together with some investigations into such conditions This group is subdivided into a group dealing with the cardinal steps in the demonstration of the etiology and into others dealing with arthritis, chorea and other nervous manifestations, and with heart disease. The last of these groups contains the practical applications of the investigation to clinical medicine and public health. Part III consists of a study of acute rheumatism based upon the results of the previous researches, and has not been published before It forms a valuable summary of the present knowledge on acute rheumatism, with a brief review of the investigations which led up to the same

In discussing the etiology the theory of infection is naturally considered, and whilst upholding the view that the disease may be looked upon as the result of infection by a diplococcus belonging to the streptococcal group, Dr. Poynton and Dr. Paine do not maintain that the causation of acute rheumatism is due entirely to the invasion of this organism. Its presence in the tissues is, they think, essential, but there are important predisposing factors of much practical interest, amongst which may be mentioned heredity and age incidence. Further, they say that in general those surroundings which are associated with poverty and neglect are responsible for much of the acute rheumatism so rife in this country.

A brief account is given of the chief characteristics of the diplococcus rheumaticus. The morbid anatomy is then considered, including not only the changes in the joints and connective tissues, but also the subcutaneous nodules and the state of the respiratory system, especially the tonsils, and the opinion is expressed that unhealthy conditions of the tonsils and nasopharynx are, especially in childhood, closely associated with acute rheumatism.

In the section dealing with symptomatology two general statements are made—the first, that in the future all descriptions of acute rheumatism will be probably based upon a survey of the disease in the young, and such peculiarities as occur in adult life will be looked upon as departures from the classical disease which is seen in its truest characters in childhood; the second, that the symptoms do not always combine to produce an acute disease running a definite course. On the contrary, not only may the symptoms be at first indeterminate, but they may even occur as isolated events pointing to the implication of one important organ only. Indeed, the authors suggest, with some reason, that any description of the symptoms of acute rheumatism must be almost as formidable an undertaking as a description of tuberculosis.

The last point dwelt upon is the influence of these researches upon the all-important problem of the treatment of the disease. Amongst drugs the administration of the salicylates naturally receives most attention, and whilst admitting that these remedies relieve pain and lower temperature, the authors fail to find any proof that they have a specific action; therefore, although advocating their use for the polyarthritis, muscular pains, or headache, they do not advise pressing them for their specific action in heart disease or chorea. Stress is laid on the importance of adopting all possible measures for the prevention of the disease, such as proper clothing and care of sore throats. In conclusion, Dr. Poynton and Dr. Paine express their conviction that the general subject of "rheumatism" has reached only the threshold of inquiry, and that in every direction new fields for research and inquiry are open.

This volume will be found of unusual interest, containing as it does a large amount of instructive information, and throwing out many suggestions for future investigation. The authors may be congratulated on their patient and thorough research.

Epidemic Cerebro-spinal Meningitis.

By ABRAHAM SOPHIAN, M.D., formerly of the New York Research Laboratory. With 23 illustrations. London: Henry Kimpton. Glasgow: Alexander Stenhouse. 1913. Pp. 272. Price 12*s.* 6*d.* net.

THIS monograph is the outcome of the exceptional facilities enjoyed by the author of studying epidemic cerebro-spinal meningitis clinically during the Texas epidemic of 1912 and pathologically and experimentally in the New York Research Laboratory under the ægis of Dr. Simon Flexner. His purpose is to convey a thorough yet simple description of the clinical and laboratory findings, and to familiarise the reader with the application of laboratory methods to the treatment of the disease. In this purpose he has amply succeeded.

The etiology, symptomatology, and laboratory diagnosis of the affection are entered into at considerable length, and there are important chapters on the complications of the malady and on its treatment. The last of these occupies no fewer than 98 pages, and constitutes one of the best and most comprehensive discussions of therapeutic and prophylactic measures in the disease under consideration in the whole literature. There is a detailed description of the author's new method of administering anti-meningitis serum subdurally. The complications met with in cases of "dry canal" and where the intrameningeal exudate is very thick and plastic are dealt with, as well as the hydrocephalus that occurs in the acute stage. The whole chapter is replete with practical suggestions, and demonstrates afresh the value of scientific research in the furtherance of clinical medicine.

The monograph contains an excellent account of the present state of our knowledge of epidemic cerebro-spinal meningitis; both clinical and pathological illustrations are well reproduced, and the index is good. The author's acquaintance with the literature is wide, but while the work of many previous investigators is constantly referred to, there is a regrettable absence of information as to where their papers are to be found. There are some minor blemishes—misprints and inaccurate grammatical constructions, and several French and German words are incorrectly rendered.

Psychology Applied to Legal Evidence and Other Constructions of Law.

By G. F. ARNOLD, I.C.S., C.I.E., late Member of the Burma Legislative Council. Second edition, revised and re-written in parts. Calcutta: Thacker, Spink, and Co. 1913. Pp. 607. Price 12 rupees.

THE fact that this work has reached a second edition—it was first published in 1906—is a proof that the author's uncompromising attack on the legal system under which he has worked has excited the interest, even if it has not won the approval, of a sufficient circle of readers. To many, however, it is possible that the severity of Mr. Arnold's criticism may appear somewhat excessive, for, though it is common enough to hear grumbles at the delays and eccentricities of the law, there is little evidence of any very intense and widespread dissatisfaction with the administration of justice in this country. It may be, of course, that Mr. Arnold's official career in the public service of India has made him more keenly aware of the imperfections of the English legal system than he would have been had he seen it in operation only in the country of its origin. Founded as that system is on the exaggerated intellectualism of Western civilisation, its application to Oriental races of totally different psychological type can hardly be expected to produce invariably good results; and an observer who failed to bear that qualifying consideration in mind might be easily led to attribute to the faultiness of our jurisprudence what ought more justly to be ascribed to its unsuitability to the Asiatic temperament. Some such explanation seems the most obvious way of accounting for the vigour, not to say violence, of Mr. Arnold's sweeping condemnation of English law and English lawyers; and this view will appear the more probable from the fact that most of the concrete instances of legal ineptitude which he cites are drawn from the records of Indian courts. The author, however, does not himself suggest any such limitation of his criticism, which is of a more general character and is concerned with the fundamental principles of the legal system. It is under this wider aspect, therefore, that we have to examine his arguments.

The main count in Mr. Arnold's indictment is that the law *fails to* make use of the conclusions and methods of other sciences, and more particularly of the conclusions and methods of psychology, which, as being the science that deals with mental qualities, human motives and conduct, should be in a special manner the guiding influence in legal theory and practice. It is Mr. Arnold's contention that, so far from admitting and acting upon this self-evident principle, lawyers as a class have constantly displayed a bigoted prejudice against all branches of philosophy, with the result that, when legal methods are examined from the standpoint of modern psychology, they are found to be hopelessly antiquated and faulty, out of harmony, not merely with the more recent conceptions of science, but even with such general knowledge of the mechanism of thought and action as the average citizen uses in his ordinary dealings with his fellows. Developing this idea, the author attacks the legal system for its artificiality of language, its insistence on forms and precedents, its rigid rules of evidence, its principles of interpretation and procedure—in short, for all the characteristic features which lawyers are wont to insist upon as constituting its special strength. That there is a large element of truth in this criticism is indisputable. It is clearly impossible, for instance, to defend that obstinate adherence to the tenets of an extinct psychology which insists on retaining as the criterion of criminal responsibility the absurd rules laid down in the Macnaghten case; and it matters little that in this question legal practice is usually better than legal theory; indeed, the fact rather supports Mr. Arnold's thesis, as proving the strength of that exaggerated conservatism which he imputes as a special vice in the law. And, as the author very acutely shows, the same intellectualist fallacies which have determined the legal attitude with regard to insanity have inspired many other legal views; they are implicit, for instance, in the authoritative doctrines with regard to intention.

It may be freely admitted, therefore, that Mr. Arnold, in this application of psychology to the criticism of law, has on many points made out a good case for his iconoclastic views. And yet his work leaves on the whole an unsatisfactory impression, and just for the reason that it is purely iconoclastic. In his preface Mr. Arnold has anticipated this objection, but he has not answered it, and, indeed, it hardly admits of a convincing answer. In a purely theoretical question an exclusively destructive attitude may, no doubt, be perfectly legitimate; but the law is not a branch of abstract knowledge; it is a practical system evolved by society to serve its self-protective purposes, and it has of necessity the imperfections that belong to its mode of origin. The critic who points out these imperfections, but fails to suggest how they are to be made good, is at once open to the rejoinder that the evils which he deplores may be inevitable in so purely empirical a creation as every legal code must necessarily be. At all events, the existence of such evils can hardly be, as Mr. Arnold sometimes seems to suggest, a sufficient reason for doing away with the legal system, root and branch. When due allowance has been made for the tendency which he occasionally shows to press his criticisms to rather extreme lengths, Mr. Arnold may be congratulated on having produced a valuable and stimulating study of this subject.

Embolism and Thrombosis of the Mesenteric Vessels.

By LESLIE B. C. TROTTER, M.A., B.C. Cantab. Cambridge: The University Press. 1913. Pp. 143. Price 8*s.* net.

THIS book forms an exhaustive study of mesenteric vascular occlusion, presented as a thesis for the doctorate. The author was stimulated to the research by having under his care two cases, but later he increased the number of his original cases to seven, and amended these by collecting and critically analysing in all 360 cases from various sources. The original cases are described in detail and illustrated, and then the whole subject is treated of under the heading of morbid anatomy, which forms the basis of classification, experiments, descriptive anatomy, symptomatology, diagnosis, and treatment.

The author found the most common cause of arterial occlusion to be embolism following lesions of the heart and arteries, whilst venous thrombosis was most commonly found spreading from thrombosis of the portal vein, though in some cases it arose primarily as a result of an infective process in the intestinal tract or in the pelvic organs of the female. The duration of the condition was from two days to a fortnight, whereas the symptoms appeared to be those of acute abdominal mischief. The treatment adopted was that of immediate laparotomy, but it was found that 36·2 per cent. of recoveries resulted from all cases of operation. There are an extensive bibliography and a list of 366 cases.

The compilation added to the careful account of the author's own cases has considerable value. Indeed, if such clinical (using the word in its widest sense) investigations more frequently formed the subjects of theses, much good would accrue to practical medicine.

Handbuch der Frauenkrankheiten.

Von M. HOFMEIER, Professor der Geburtshilfe und Gynäkologie in Wurzburg. With 290 illustrations and 10 plates. Leipzig: F. C W. Vogel. 1913. Pp. 628. Price 14 marks, or bound 16 marks.

BUT little need be said of so well-known a German text-book as this of Professor Hofmeier, more especially as this edition corresponds to the fifteenth edition of Karl Schroeder's book on diseases of women, upon which it was originally based and which it now represents.

The whole work has been well and carefully revised, a great deal of new matter has been incorporated, and a quantity of old eliminated. The number of illustrations has been increased by 22, and many of the old ones have been redrawn. A new chapter has been added on the treatment of gynæcological cases by X rays. As the author rightly remarks, sufficient time has not yet elapsed to allow us to determine with certainty the place which this therapeutic agent will ultimately take, but the results so far obtained by its use are very encouraging. The main indications recognised are hæmorrhage at the menopause and that due to fibromyomata of the uterus. A less definite indication is afforded by cases in which artificial sterility is desired such as tuberculosis, and cases of disease of the external genitalia. It is also suggested that good results will attend its use in cases of peritoneal tuberculosis and as an adjunct to the use of radium or mesothorium in cases of carcinoma of the uterus. A number of interesting and encouraging statistics are quoted from the various German cliniques in which this mode of treatment is being carried out. Attention is called to the dangers of burning of the skin and of setting up excessive hæmorrhage as the first result of the use of the rays, but nothing is said of the risks of setting up inflammatory changes in the peritoneal cavity and the possible production of changes in the intestinal mucosa and the formation of adhesions. The author lays stress upon the necessity for large doses of hard rays, and points out that small doses of soft rays produce imperfect and disappointing results.

The whole book is a good example of the best type of German text-book.

Normal Histology. With Special Reference to the Structure of the Human Body.

By GEORGE A. PIERSOL, M.D., Sc.D., Professor of Anatomy in the University of Pennsylvania. Tenth edition. With 438 illustrations, 88 of which are in colour. London and Philadelphia: J. B. Lippincott Company. Pp. 418. Price 15s. net.

THE eighth edition of this work was reviewed in THE LANCET of Feb. 11th, 1911. The number of pages in the present edition is exactly the same as in the eighth, and the preface bears date, August, 1910. What we said of the usefulness of the work in 1911 remains equally true of the new edition, but some of the coloured illustrations in this new edition do not seem to us to be quite so effective—e.g., the chromatic figures in dividing cells of the epidermis, where one colour is used with a deepening of the same colour for the chromosomes; and the same is true of a section of young periosteum and the adjacent bone. The other two-coloured illustrations of bone are distinctly more effective. The complex maze of cells and colloid of the pituitary body would stand out much better if the figure had been printed in colours. Others in monotone, such as red, might almost as well have been given without colour.

Dynamische Biochemie, Chemie der Lebensvorgänge.

Von Dr. SIGMUND FRANKEL, A.O. Professor für Medizinische Chemie an der Wiener Universität. Wiesbaden: J. F. Bergmann. Pp. 600. Price M 18.60.

THIS volume proves the rapid developments which have taken place as the result of the conjoint studies of the physiologist and chemist in regard to the great vital processes. The author is recognised as one of the pioneers in bio-chemical research, and it is evident from the pages in this volume that his own original contributions have filled important places in the story so far as it has advanced. Dr. Fränkel has conducted inquiries of a practical nature on such subjects of importance as adrenalin, cholin, the lipoids, phosphatides, amino-acids, and the reducing and oxidising processes in the tissues which are concerned in metabolism. He shows, as might have been expected, a wide-ranging familiarity with the many subjects embraced in the title of this volume.

The book contains 13 chapters. The first is devoted to the physical and chemical processes involved in the tissues. This is followed by a consideration of the special chemical changes in the organism (oxidation, synthesis, and reduction). Then succeeds a chapter on the ferments, and afterwards sections on digestion, resorption, assimilation, metabolism, the classification of food substances, the chemical functions of the individual organs, the secretions, physiology of the sexual organs, muscle, nerve, skin, kidney, and the blood. The whole concludes with a comprehensive chapter on immune chemistry. There are busy workers in the field of bio-chemistry in all countries having any pretension to occupying a place in the world's science, and therefore no collection of materials can be complete without a copious reference to these international endeavours. Dr. Fränkel recognises the importance of such references or he would not have included, with the pains he has done, what amounts to a guide to the universal literature on the subject in the numerous footnotes given. The work is authoritative and the various presentations of the subject are adroit as well as learned.

LIBRARY TABLE.

Mendelism and the Problem of Mental Defect. I. A Criticism of Recent American Work. Department of Applied Statistics, University College. "Questions of the Day and of the Fray," No. VII. By DAVID HERON, D.Sc. London: Dulau and Co. 1913. Pp. 62. Price 2s. net.—The American papers dealing with the inheritance of mental defect which come in for the bulk of the criticism contained in Dr. Heron's pamphlet are three in number—(1) A First Study of the Inheritance of Epilepsy, by Dr. C. B. Davenport and Dr. D. F. Weeks (Eugenics Record Office, Bulletin No. 4); (2) The Inheritance of Epilepsy, by Dr. Weeks (Problems in Eugenics, p. 62); and (3) Chapter IV. of "The Hill Folk," by Miss F. H. Danielson and Dr. C. B. Davenport (Eugenics Record Office, Memoir No. 1). His reasons for devoting so much space and time to their criticism are that "they have been welcomed in this country as of first-class importance," and that their teaching is fallacious. In the first paper the theory was stated rather dogmatically that feeble-mindedness and epilepsy considered together as one character behaved in inheritance as a simple Mendelian recessive. That this work had previously been received without criticism in this country is not in point of fact the case, as Dr. Heron will discover if he refers, for example, to the *Eugenics Review* for July, 1912. In the second paper the conclusions are much more modestly stated, and in the third the theory is abandoned altogether and another more complex hypothesis substituted with the warning that, "in view of the difficulties in analysing individuals [presumably the members of the 'Hill Folk' are here referred to] accurately the study of the inheritance of their traits can only be suggestive." It is impossible to give briefly any account of Dr. Heron's criticism. Much of it appears as regards its substance perfectly justified. Some of it, on the other hand, is hardly fair—as, for example, when he finds fault with Dr. Davenport for inconsistency because he has changed his mind. The whole of it would have been more effective if it had been expressed with less rancour and less rhetoric.

A Companion to Manuals of Practical Anatomy. By E. B. JAMIESON, M.D. Edin., Senior Demonstrator and Lecturer on Anatomy, University of Edinburgh. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 543. Price 6s. net.—Dr. Jamieson has added another pocket anatomy to the student's outfit. This volume, like all of its class, is intended to assist the student in revising work already done properly both in the dissecting room and with the larger text-books. It shares the danger common to all these little books—that it may degenerate into a mere cram-book for the student who has not so done his work. Indeed, the transition is a perilously easy one. We trust that the student into whose hands this volume falls will respect the author's aims, and use it only after his foundation work has been properly and truly laid.

Text-book of Anatomy and Physiology for Nurses. By AMY E. POPE, Instructor in the School of Nursing of the Presbyterian Hospital in the City of New York. With 135 illustrations, many in colours. New York: G. P. Putnam's Sons. 1913. Pp. 554. Price 6s. net.—Anatomy and physiology are subjects of which the nurse should rightly have some fundamental knowledge, but the proper setting of these subjects for the use of nurses seems to be a particularly difficult problem. In the present instance we note with disfavour the condensing of highly important knowledge into "tips" (or, as the author puts it, "doggerel") not worthy of print, and degrading to memory. We also note that the illustrations are derived from Testut's great work, but that those that are acknowledged are ascribed to Professor F. H. Gerrish, who familiarised them to American readers.

Über den Hospitalismus der Säuglinge. Von D. LUDWIG F. MEYER, Privat-dozenten an der Universität, Berlin. With 31 figures in the text. Berlin: S. Karger. 1913. Pp. 78. Price 4 marks.—The author regards the so-called hospitalism of nurslings as due mainly to three different factors—intestinal infection, improper feeding, and insufficient care. After considering these three factors in detail he illustrates the pernicious influence of the hospital upon such children by observations carried out in the orphan asylums in Berlin. Great stress is laid upon the frequency of diseases of the air passages in nurslings and the disastrous effects of errors in feeding. In conclusion, the author points out that a lowered mortality rate is only to be obtained by the prevention of affections of the air passages and improvements in the methods and technique of artificial feeding.

MISCELLANEOUS VOLUMES.

A NUMBER of books bearing on problems in social economics may be grouped together here.

The Union of South Africa, with its problems, bulks so largely in the public eye just now that Miss VIOLET R. MARKHAM's interesting and thought-provoking book, *The* [illegible] Problems, in which political, racial, linguistic, social, industrial, and other matters are discussed in a restrained style but with remarkable insight. There are items of medical interest too. The Indian Ambulance Corps, which did good service in the field during the war, commemorated by a monument in Johannesburg, receives a tribute. Miners' phthisis as an industrial problem is considered. The work of the scientific laboratories at Onderstepoort, under the charge of Sir Arnold Theiler, K.C.M.G., in which, among other scientific researches, endemic diseases are studied in their relation both to animals and man, receives notice; while, of course, Dr. Livingstone's and Sir Starr Jameson's activities as explorer and administrator respectively crop up from time to time to shed a reflected glory on the profession of medicine.

Constructive Conservatism (London: The Stepney Press. 1913. Pp. 64. Price 1*s.* net), by HARRY ROBERTS, is not, as one might expect from the title, a party political pamphlet, but rather an attempt to point out the way to the fullest development—physical, mental, and moral—of the British race, not through the separation and mutual antagonism of the Syndicalists and Socialists and Liberals and Tories, but through the separation of those who care for the well-being of England and the liberty and well-being of the men, women, and children of England from those who care only for their own careers, or possessions, or logical consistency, or social prestige, or party score. To effect this he advocates the institution of an English national policy in accord with the spirit and ideals and traditions of the English people, which shall have for its object the fullest possible development—physical, mental, and moral—of every child born in England. It is neither visionary nor revolutionary. Though doubtless all will find something to dissent from in it, probably most will find much more that commands their assent. The pamphlet ought certainly to be read by all social economists.——*National Service and National Education*, by ERIC GEORGE, with an Introduction by Lord HENRY CAVENDISH-BENTINCK, M.P. (London: P. S. King and Sons. 1913. Pp. 83. Price 1*s.* net), is a very excellent little pamphlet in the main, though naturally everyone will not agree with all the details. Mr. George insists upon a point in which most people will agree with him—namely, that the proposals of the National Service League, admirable though their general principles are, fail in one important particular: that they do not propose to begin the training of citizens until the age of 18; whereas, as Mr. George rightly says, the critical age is 14 to 16, when a boy leaves school. His plan, as laid down on page 22, is that all boys should have simple physical exercises and squad drill while at school; that on leaving school at or under 16 they should spend one year at a training school for a partly military curriculum, where strict discipline should be enforced; after this they should be members of the Officers' Training Corps or of a cadet corps up to the age of 18. (Practically the same scheme is advocated in *Constructive Conservatism*, reviewed above.) After this they may, if they liked, join the regular army, the Special Reserve, or the Territorials, but training is to be compulsory up to the age of 18. The training school is to be a boarding school. The scheme is well worth the consideration of the authorities.——*A National System of Education*, by JOHN HOWARD WHITEHOUSE, M.P. (Cambridge: The University Press. 1913. Pp. 92. Price 2*s.* 6*d.* net), we learn from a prefatory note, "is issued with the general approval of the executive committee of the Liberal Education Group of the House of Commons, though they are not necessarily committed to its detailed recommendations." If the Liberal Education Group has read Mr. Whitehouse's recommendations its members will feel relieved at his statement, for his recommendations entirely upset, it seems to us, the whole educational system of the country. We are quite willing to allow that that system does need alteration, but Mr. Whitehouse goes too fast. The "additional heavy cost," which he allows will be necessary, is to be met out of the taxes; the school age is to be raised to 16, or possibly higher. As a beginning, we are to have a Royal Commission on Private Schools (Chapter VIII.), a Royal Commission on the Universities of Oxford and Cambridge (Chapter X.), and a Permanent Financial Commission of the Board of Education (Chapter IX.). As to the religious question, Mr. Whitehouse dismisses it as "a very limited and a very small question." It is no part of our duty to say whether the advocates of religious teaching are right or wrong, but they cannot and will not be dismissed in such a cursory fashion.

JOURNALS AND MAGAZINES.

Brain: a Journal of Neurology. Vol. 36. Part 1.—The first number of the new volume consists of three papers of considerable but varied interest. The first is the combined work of the Editor and Dr. E. G. Fearnsides with Dr. J. McIntosh and [illegible] the question of parasyphilis of [illegible] Wassermann reaction being the c[illegible] the paper of [illegible] true: [illegible] dition. The paper is [illegible] for it draws a definite distinction between tertiary and parasyphilitic affections of the nervous system, the former being regarded as depending upon the reaction of the hypersensitised connective tissues and blood-vessels in the nervous system, the latter as depending upon the hyperallergic reaction of the essential nerve elements and neuroglia. Thus the pathogenesis of the two conditions is the same—each being determined by the reaction of the tissues to the spirochæte or its toxins, but in the two cases the tissues reacting are different. In tertiary syphilis nervous symptoms are produced by the pressure of proliferated connective tissue on nerve elements, in parasyphilis the reaction of the nervous tissues themselves leads to their destruction. Such a view is held to explain the intractability of parasyphilitic manifestations by antisyphilitic remedies as contrasted with the cures which follow the use of anti-syphilitic remedies in tertiary syphilitic affections. The second paper is a very elaborate study of the brain of a macrocephalic epileptic by Dr. J. Wiglesworth and Dr. G. A. Watson, and in the third paper Dr. W. G. Spiller discusses the subject of myopathy, and especially the relation to this condition of such cases as those of myotonia congenita, myotonia atrophica, and true muscular hypertrophy. It will be seen that *Brain* continues to maintain the high standard which it has accustomed its readers to expect.

Æsculape for November contains several interesting articles. Mme. Dr. G. Yves-Roy discourses of centenarians in a continued article. Dr. P. Raymond describes the herbarium of Rousseau, consisting of 180 plants mounted by himself and given to Mdlle. Madeline Boz de la Tour, with extracts from his letters to that lady. Dr. E. Sicard discusses the question of euthanasia, strongly combating the plea for "merciful interposition" in suffering, and especially insisting that it is under no circumstances the part of the medical man to destroy life. Dr. Just Navarre gives interesting sketches of the medical men who attended Pascal in his last illness, dealing in this number with Noel Vallant, François Quénaud, Nicholas Brayer, Pierre Hommels, and Eusebius Renaudot. Dr. H. Douzane, an army surgeon, continues his impressions of Morocco before the protectorate. Dr. Bonnette writes of the death of Sergeant Blandan, a young hero of the Algerian army in 1842, who was wounded in the thigh, the chest, and the abdomen, and was succoured on the battlefield by an assistant surgeon named Ducros, although he had but just immobilised his own right arm, shattered by the explosive effect of a ball fired at close quarters. An excellent account of Professor Le Double, the man and his work, follows from the pen of Dr. Dubreuil-Chambardel and Dr. Faix.

The Military Surgeon.—In the number for December Major R. B. Miller, of the Medical Corps, United States Army, describes the successes and difficulties in the sanitary administration of a divisional camp (8000 men) at Texas City from March 1st to July 31st. He discusses in most useful detail latrines, latrine covers, destructors, fly-traps, and manure-burning. He was himself the sanitary officer, and finds that that unit presents the best sanitary appearance whose commander is interested in sanitation and gives it his personal attention; further, that surgeons really interested and energetic always managed to obtain good results in their regiments. Stale beer, fish, and meat make the best baits in fly-traps in his opinion, while to burn out latrine pits, which should be done daily, 5 pounds of hay per company, or 1½ gallons of oil, suffice, half a barrel of quicklime being added just before the pit is filled in. Lime inhibits the growth of bacteria, but does not reach fly larvæ. Typhoid prophylaxis was complete, and there were no typhoid cases. Major W. W. Reno again[1] draws attention to the accelerated removal of wounded off the battlefield which would be secured if his scheme for putting wheels on stretchers and harnessing the ambulance mules or horses to these, which he terms ambulance-travois. His paper is very suggestive and has good illustrations. He calculates that he can in the same time so remove six times as many wounded from the dressing stations to the ambulance as can be moved by bearers in the manner now recommended. Captain C. E. Yount, of the Medical Corps of the National Guard, notices that Mediterranean fever was first reported in the United States in 1905, but that it has quite possibly existed there, particularly amongst goatherds, for 25 years, and that it is now not infrequently met in Arizona, Texas, New Mexico, and California. He suspects the disease was carried by goats imported from Malta, and records the large number of cases which occurred in the Italian army in Tripoli in 1911–1912. It is noted that there is far more tuberculosis in the French than in the German navy, and this is ascribed to the more frequent infection of French sailors in their homes, for tubercle is a scourge in Normandy and Brittany, from which provinces France draws most of her seamen.

Dental Record.—The January issue contains a long article by J. F. Colyer on Abnormalities in the Position of the Teeth in Animals. There are close on 50 illustrations, mostly of specimens contained in the Odontological Section of the Museum of the Royal College of Surgeons of England. The author shows that many of the abnormalities met with in man are also to be seen in the lower animals. The somewhat frequent irregularity in the monkeys of complete displacement of a premolar he considers is intimately associated with the developmental position of this tooth in those animals. Reference is made to the difference in the arrangement of the teeth in species possessing long-muzzled and short-muzzled varieties, and he considers these irregularities are evidence of the greater variation of the jaw compared to the teeth.—Dr. J. Sim Wallace continues his paper on Recent Investigations of the Causation of Dental Caries, and expresses the opinion that sulphocyanate of potassium is not related to the incidence of caries. The paper also contains interesting remarks on the relation of alcohol to caries.—Mr. G. Northcroft gives an account of a Modification of the Apparatus suggested by Mr. W. W. James for the relief of mouth breathing.

British Dental Journal.—The issue for Jan. 1st has a short note on two cases of Teeth-containing Cysts, which shed a ray of light on the pathology of this type of cyst. There is also an article by Mr. R. M. Wormald, briefly summarising the present position of army dentistry in the different nations.

Jahreskurse für ärztliche Fortbildung. Munich: Lehmann. Price 18 marks per annum.—The October number contains a review on the subject of the various forms of acute meningitis by Dr. H. Schottmüller. He speaks first of the technique of lumbar puncture and emphasises its importance in the differential diagnosis, and then passes in review infective meningitis due to the pneumococcus, staphylococcus, streptococcus, meningococcus and influenza bacillus, tuberculous meningitis, and meningitis comitans. He recognises that a few more or less unquestionable cases of tuberculous meningitis have recovered. By meningitis comitans is meant a condition in which the symptoms of meningitis are present as a complication of brain abscess, sinus thrombosis, or of cortical hæmorrhage, often following otitis media, but there is no bacterial invasion of the meninges, and the lumbar puncture shows an excess of leucocytes and a little albumin, but no organisms. With reference to the treatment of the various forms of meningitis, lumbar puncture, followed, it may be, by washing out with chinosol or lysol, and the administration of a suitable serum, are mentioned with favour. Two writers next consider the subject of the mutation of bacteria, and the poisonous effects which may follow the administration of animal extracts given intravenously. Lung and liver extracts, in particular, produce such effects. A general review of recent work bearing on immunity follows. Dr. M. Mayer writes on tropical medicine, with special reference to the insect carriers of disease.—The November part is devoted to diseases of the eye, nose, and teeth. Professor Krauss discusses inflammation and other diseases of the lacrymal apparatus, and then passes on to consider the value of salvarsan in syphilitic affections of the eye, which gives better results when the front of the visual tract is diseased than when the back is at fault. Good results are also obtained in syphilitic lesions of the optic nerve, but not in interstitial keratitis. The etiology and treatment of glaucoma are also spoken of. Professor Preysing devotes his article to a description of the various signs and symptoms of disease of the pituitary gland, with illustrations, largely following the experimental work of Achsner. This differs from Cushing's well-known results in some respects; for instance, total extirpation was not always fatal. The various routes by which the gland may be removed in man are figured and described. The operation mortality is thus given: 26 patients, Hirsch route,

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[1] The Lancet, Feb. 1st, 1913, p. 343.

11·5 per cent. died; 29 patients, Cushing route, 13·7 per cent. died; 45 patients, Schloffer route, 37·8 per cent. died; 14 patients, von Eiselsberg route, 28·5 per cent. died. The writer describes a palatine route. It will be seen that the endo-nasal approach gives better results than that by way of the ethmoidal cells. Professor Dieck discusses the dental origin of trigeminal neuralgia.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the ninth meeting of the Royal Commission on Venereal Diseases, which was held on Dec. 15th, 1913, evidence was given by Mr. J. Ernest Lane, senior surgeon of St. Mary's Hospital and of the London Lock Hospital, and a member of the Royal Commission.

Mr. Lane said that in his opinion venereal diseases are attended by just as great a mortality as tuberculosis or cancer, and although it was not possible to obtain figures to support this view, it was one which had been more or less frequently expressed by well-qualified persons. He thought that the diseases were somewhat less prevalent than 20 or 30 years ago, but on this point it was very difficult to speak with certainty; the statistics of death certified as due to syphilis did not give any idea of the prevalence of the diseases. Mr. Lane said that, although large subscriptions are given to the cause of combating other diseases, nothing has been done with regard to venereal diseases, and public money has never been expended except in carrying out the Contagious Diseases Acts. He laid stress on the necessity for improved and free hospital treatment, and said that every patient suffering from any form of venereal disease ought to be entitled to gratuitous treatment and medicine and to bacteriological and other tests. If it is desired to cure syphilis and get rid of the disease anything that would aid early diagnosis ought to be at a patient's disposal without expense to him. In any scheme for the efficient treatment of the diseases the establishment of night clinics was essential.

On the subject of notification Mr. Lane said that though he had formerly been in favour of notifying all cases of venereal disease to the sanitary authority, he had now modified his view because he was convinced that notification would deter sufferers from seeking proper advice and would lead to increased recourse to quack treatment. Dealing with the question of the education of public opinion with regard to venereal diseases, he said that in the first place the infected person must be instructed. It should be made compulsory for medical practitioners to supply to every patient suffering from venereal disease printed instructions as to the nature of his disease and as to the measures he should adopt to avoid spreading the trouble; copies of these instructions should be supplied gratuitously to the doctors. Secondly, he would suggest that all institutions where there are a large number of employees or institutions such as colleges and universities ought to have some course of lectures explaining the dangers of venereal disease. It was also of the greatest importance that the standard of knowledge of these diseases in the medical profession should be raised; in the past the teaching given in the medical schools was very inadequate, but steps were now being taken in some of the more important hospitals which should lead to an improvement in this respect.

Mr. Lane gave some statistics of the work done at the London Lock Hospital. He showed that during the last 30 years there has been a remarkable diminution in the number of prostitutes treated at the Female Hospital; at the present time the majority of the female patients were very young girls, and 13 per cent. of the patients were married women. All the cases in the children's wards and the greater part of the married women were examples of innocent syphilis. In the Male Hospital the new out-patient department opened in 1911 had proved most satisfactory, and the number of attendances was increasing; a new in-patient department was opened in November last with three wards perfectly fitted with all modern accommodation for 40 patients.

At the tenth meeting, held on Dec. 19th, Dr. T. H. C. Stevenson, Superintendent of Statistics to the Registrar-General of England and Wales, attended and gave evidence supplementing that which he gave at the first meeting. Dr. Stevenson said that though the statistics tabulated from death registers by the Registrar-General cannot be claimed to afford any measure of the absolute amount of mortality from venereal disease, they do throw light in varying degree upon its relative amount, whether the comparison made be historical, geographical, or social. Looking at the matter from the historical point of view, the curve of mortality from syphilis in England and Wales shows a very large and rapid rise between 1850 and 1868, followed by a period of fairly sustained elevation till about 1886; this is succeeded by ten years of rapid fall, and the fall has continued, though it has become less rapid since 1896.

Dr. Stevenson was of opinion that the fall recorded in the last 30 years represented a genuine decrease in the mortality from the disease; he gave several reasons in support of this view, and referred also to the large contemporaneous fall in the curves showing prevalence of syphilis in the army and navy. To illustrate the incidence of syphilis and diseases resulting from it on various occupational and social classes, tables had been prepared in which the male population was graded according to occupation into five main groups and three additional groups (textile workers, miners, and agricultural labourers) representing the three largest single industries. Of the five main groups, the first consisted of the upper and middle classes, and was sufficiently comprehensive to include clerks and insurance agents; the fifth group represented unskilled labour. The most striking feature of the tables was the uniformly low mortality of textile operatives, miners, and agricultural labourers, the last group especially yielding very low rates. Of the five main groups the highest mortality was found in Group 5. The mortality from syphilis was lowest in Group 1, but the mortality recorded against it from the parasyphilitic diseases was high, and for locomotor ataxy the rate was higher than that of any of the other groups.

Taking all the circumstances into consideration Dr. Stevenson conjectured that syphilis is most prevalent amongst the highest and lowest of the five social classes he dealt with, and that the three great industries of textile manufacture, mining, and agriculture are almost certainly exceptionally free from the disease. With regard to the geographical distribution of the diseases the tables furnished by Dr. Stevenson indicated that the prevalence in the large towns was much greater than in the rural and small urban districts.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna:* Dr. Giuseppe Ficai has been recognised as *privat-docent* of Hygiene.—*Bonn:* Dr. R. O Neumann, professor in Giessen, has been appointed to the chair of Hygiene, in succession to Dr. Kruse.—*Florence:* Dr. Riccardo Chiappella has been recognised as *privat-docent* of Hygiene and Sanitary Police.—*Freiburg:* Dr. K. Ziegler, of Breslau, has been appointed Extraordinary Professor of Medicine.—*Gottingen:* Dr. W. H. Schultze, *privat-docent* of pathological anatomy, has been granted the title of Professor.—*Greifswald:* Dr. P. Römer, extraordinary professor in Marburg, has been appointed to the chair of Hygiene, in succession to Dr. Löffler.—*Harvard:* Dr. Reid Hunt has been appointed to the chair of Pharmacology.—*Heidelberg:* Dr. Hans Petersen has been recognised as *privat-docent* of Anatomy.—*Naples:* Dr. Domenico Enca and Dr. Annibale Taliercio have been recognised as *privat-docenten* of Midwifery and Gynæcology.—*New York (University and Bellevue Hospital Medical College):* Dr. William B. Tremble, lecturer, has been promoted to the Professorship of Dermatology and Syphiligraphy.—*Padua:* Dr. Antonio Berti has been recognised as *privat-docent* of Medical Pathology.—*Parma:* Dr. Aldo Tedeschi has been recognised as *privat-docent* of Hygiene.—*Pisa:* Dr. Renato Pirani-Coen [illegible] of Midwifery and Gynæcoc[illegible] been appointed Professor [illegible] Marras has been recognised as *privat-docent* of Hygiene.—*Sienna:* Dr. Mario Chiarugi has been recognised as *privat-docent* of Surgery and Operative Medicine.—*Toronto:* Dr. Fred Marlow has been appointed Adjunct Professor of Gynæcology.

PARKE, DAVIS & Co.'s PAGE

LETTERS TO MEDICAL MEN

1. ON THE NEW METHOD OF TREATING INFECTIOUS DISEASES.

The new method

DEAR SIR,—You will observe that the heading of this letter speaks not of "a" new method, but of "the" new method of treating infectious diseases. The use of the definite article is based on the assumption that there has been introduced into medicine a new, definite, and (within certain limits) specific method for the treatment of diseases of microbic origin. Whether such use is justified will subsequently appear. The idea of "newness" is relative, and its application in any given circumstances must be carefully circumscribed. We have it on the best authority that "there is nothing new under the sun," and very likely many medical men will tell you there is nothing new about Phylacogen, that it is simply mixed vaccine "writ large." This, of course, is not the case, since the Phylacogens belong to a class of preparations very different from vaccines. Some other day we shall probably discuss the relationship between the two, but such discussion is outside the scope of the *present letter*.

Its Origin

The credit for the discovery of the idea that ultimately crystallised as Phylacogen belongs to an American medical man, Dr. A. F. Schafer, of Bakersfield, California, Dr. Schafer had for some considerable time been making use of a new form of bacterial derivative in the treatment of acute and chronic infections, and in due course he announced his discovery to the profession through the San Joaquin Medical Society, at Fresno, California, in October, 1910. Later, on January 14th, 1911, the subject was further elucidated before the San Francisco Medical Society, and on April 15th of the same year a paper by Schafer on his method of treatment was published in the *Therapeutic Gazette*, the well-known medical monthly, edited by Dr. Hobart Amory Hare, of Philadelphia.

Theory of its application

The principle upon which the use of Phylacogens is based *is, briefly, the* theory of multiple infections. Dr. Schafer's belief, founded on large clinical experience, supplemented by exhaustive *scientific* research, is that all infections are mixed infections; *that except* in rare instances there is no such thing *as an* infection by a single species of micro-organism; *that* while one species may predominate, the pathological process engendered by it is accelerated and *intensified by the* presence of organisms of other species; in other words, that in the case of an infectious disease the symptoms are due not only to the effects *of the* specific infecting organism, but to the influence of other organisms whose pathogenic rôle is not insignificant, and which must *be reckoned* with in any successful scheme of therapeutics.

The name Phylacogen.

The term Phylacogen *has* been coined to distinguish the several bacterial derivatives introduced by Schafer. Each specific Phylacogen is further identified by *prefixing* the name of the pathological condition in which it is indicated, as, for example, Rheumatism Phylacogen, Pneumonia Phylacogen, &c. The word Phylacogen is derived from two Greek roots, and it means "*phylaxin producer*," phylaxin being the name applied by Hankin to a defensive proteid *found in animals* that have acquired an artificial immunity to a given infectious disease.

Preparation

Phylacogens are made from a large variety of pathogenic bacteria, including Staphylococci, Streptococci, B. Typhosus, B. Coli Communis, B. Pyocyaneus, B. Diphtheriæ, D. Pneumoniæ. These bacteria are grown in artificial media, the cultures being incubated at 37° C. for 72 hours or longer. Thereafter, the organisms are killed, a preservative consisting of 0·5 per cent. of phenol is added, and the fluid is filtered through porcelain. The filtrate therefore contains sterile aqueous solutions of such metabolic derivatives as are generated by the bacteria in their growth. The mixed filtrate is known as *the basic Phylacogen or "Mixed Infection Phylacogen."* This is a true polyvalent preparation, since the organisms are not from one strain only of a *given* species, but from cultures made at frequent intervals and from a variety of sources.

Specific varieties

Each specific Phylacogen is prepared by modifying the basic material by the addition of a *certain proportion* of filtrate obtained by growing the organism considered to be predominant in the *pathological* condition to be treated—for instance, in the preparation of Rheumatism Phylacogen the streptococcus rheumaticus (Poynton and Paine) is cultivated, and the filtrate obtained therefrom is added *to* the Mixed Infection Phylacogen. A *like method* is employed in the preparation of other specific Phylacogens, such as Pneumonia, Gonorrhœa, Erysipelas, &c.

Clinical Tests

Before we undertook the manufacture of Phylacogens we made a searching investigation of all the circumstances surrounding the work in California. Several competent attachés of our Scientific Department personally visited hospitals in which cases were treated, and witnessed the unique results obtained. Not content with this, our Department of Experimental Medicine, with which are associated upwards of two thousand medical men of very high standing in America, carried *on for* more than a year a series of searching clinical tests. A vast mass of work was done in the laboratory, on animals, in the hospitals, and at the bedside. It is literally true that many hundreds of reputable physicians have administered thousands of doses of the Phylacogens, and a critical survey of the results obtained has convinced us that these remedies possess great therapeutic power.

Introduction to Medicine

Having thoroughly *investigated* the claims made in favour of the new treatment, and having satisfied ourselves that *these claims* were justified, we *introduced Phylacogens to* the medical profession in America on February 8th, 1912. They were introduced experimentally in Great Britain in October of the same year, and after we had received many exceedingly favourable reports from English and Scottish doctors, we offered them to the British Medical Profession on February 22nd, 1913. Since that time we have received a very large number of clinical reports, and the results have been exceedingly satisfactory. Some of these reports have been printed in a new edition of "Phylacogen Therapy," which has just been issued, and if you are interested in the subject, please write us for a copy and it will be sent you immediately.

PARKE, DAVIS & Co.

Beak Street, Regent Street, London, W.

THE LANCET.

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Vaccines from the Standpoint of the Physician.

The lapse of time puts new discoveries and new developments in all branches of knowledge into their true perspective in the scheme of things known and accepted. The impetus which scientific research in pathology, bacteriology, and pharmacology has given to the search for new remedies and methods of treatment affords one of the most striking features of the medicine of the present day. That these methods are too often employed unscientifically by those engaged in the practice of medicine not infrequently brings discredit upon valuable methods, so that the perfervid enthusiasm with which they are at first greeted gives place to disappointment and even undeserved neglect. Practical medicine is in a hurry for new and more effective remedies, and the maxim to prove all things is forgotten in the desire to advance. New remedies should be used critically, and statements made about them should be tested in the light of experience. In these matters the medical profession owes an important duty to the public. Owing to the wide and sometimes too early publicity given by the daily press to novelties in medicine, hopes are raised only to be doomed to disappointment, and the distrust and dislike of fresh methods, which were characteristic of former generations, have given place to a too avid demand for trial of the so-called latest advances of medical science. For these reasons, among others, discussions such as that announced to take place at the Section of Medicine of the Royal Society of Medicine on Tuesday, Jan. 27th, on the subject of Vaccines from the Standpoint of the Physician, serve a very useful purpose, and we look forward with great interest to the reports of this particular discussion.

Although, as its name suggests, vaccine-therapy is by no means new in principle, introduced as it was by Jenner, and further developed by Pasteur and Koch, yet its wider applications are comparatively recent, and are due in no small measure to the work of Sir Almroth Wright and his co-workers and pupils. They have endeavoured to work out the general principles underlying the use of vaccines, to elucidate the manner of their action, and to explain their effects in terms of the general theory of immunity to bacterial agencies. Essential to advance as these aspects of the problem are, it must not be forgotten that they are in a sense theoretical, since they depend upon the assumption of certain general reactions, which, though they may be established for certain bacterial agencies, must not yet be regarded as generalisations. The standpoint of the practising physician must be considerably utilitarian. He requires to know in what infections vaccines are of proved value, in what forms of those infections and at what stages they are best employed, what doses give the best and most lasting results, at what intervals they shall be given, and for how long continued. Questions such as these will, we venture to hope, occupy a prominent place in the forthcoming discussion. It may probably be taken as generally accepted that vaccine-therapy affords a noteworthy addition to our means of treatment of diseases produced by bacterial agencies, but owing to the many difficulties involved and the large amount of work still necessary to fill up gaps in our knowledge, the time is perhaps not yet ripe for the discussion of its comparative value in regard to other methods. From the theoretical standpoint it would appear to be the ideal form of treatment, since it seems to be a direct appeal to the natural processes of immunity. But the history of antitoxic serums shows how much we should be on our guard against generalisations from particular cases, since, great as their value undoubtedly is in infections where soluble toxins are the chief factor in the production of the disease manifestations, their use is so far strictly limited to these conditions and by no means of the general application which was originally hoped for. Moreover, vaccines as at present prepared must of necessity be crude and of highly complex and even variable composition, so that the constituent which is actually effective may be accompanied by numerous other substances derived from the bacterial protoplasm or from the culture medium, which may hinder or oppose its action or produce other undesired effects. The history of the use of tuberculin, the vaccine which has probably so far been more widely used than any other, illustrates this in the most marked manner. The long and ever-increasing list of modifications of tuberculin affords the best evidence of the continued search for purer and more constant, if not simpler, forms of tubercle vaccine.

Another point of practical interest to which we hope some attention may be given is the determination and authoritative statement of the different methods of vaccine treatment to be applied to local infections and to acute and chronic general infections respectively. Sir Almroth Wright, in explaining the actions of vaccines in disease, is careful to differentiate between their local and their general actions, and to discuss the relation of these to dosage and to the nature of the bacterial bodies and to the cells and fluids of the infected person. The practical application of these matters is one of great importance. A further aspect of the use of vaccines of which the physician is bound to take cognizance is that which is so admirably illustrated by the report of Sir ALMROTH WRIGHT and his collaborators, Dr. W. PARRY MORGAN, Dr. L. COLEBROOK, and Dr. R. W. DODGSON, on Prophylactic Inoculation against Pneumococcus Infections, published in last week's and in this present issue of THE LANCET. As a study of scientific method applied to the elucidation of a difficult problem in connexion with vaccine treatment, and as an illustration of the laborious character of such work, we can commend this report to our readers. Its interest, however, is enhanced by the promise which it holds out of a truly specific method of dealing with pneumococcus infections both prophylactically and therapeutically. It seems difficult to resist the conclusion that the pneumococcus vaccines employed by these observers lessened the incidence and the mortality of pneumonia and other conditions produced by the pneumococcus among large collections of natives, who were highly susceptible to its activity and under conditions favourable to the spread of infection. For scientific reasons Sir ALMROTH WRIGHT and his collaborators confined themselves to the study of the prophylactic effects of these vaccines, but a consideration of these statistics would seem to indicate that their use favourably influenced the progress of cases inoculated during the incubation period and early in the disease, so that it is not too much to hope that further work on the same lines may establish the therapeutic value of these vaccines in pneumococcus infections. This report forms an excellent introduction to the forthcoming discussion, since it illustrates in such a clear manner the nature of the problems involved in vaccine-therapy, the difficulties to be contended with, and the practical methods of dealing with them. One of the difficulties of the physician in the application of vaccine-therapy is the practical impossibility of controlling the effects of his treatment by means of the opsonic index or the other quantitative immunity reactions which are employed under laboratory conditions. It may be hoped, therefore, that a further useful outcome of the discussion will be to set up some general scheme for the observation and record of cases submitted to vaccine treatment, so as to afford a more uniform basis for comparison of results, and for the compilation of trustworthy statistics by enabling the results of isolated groups of cases observed by different workers to be summed together and raised to the dignity of a mass-experiment. Lastly, we may also express the hope that the discussion at the Royal Society of Medicine will serve to emphasise the fact that vaccines, being potent agents capable of doing harm when injudiciously employed, should be given only with a sense of responsibility in conditions in which their use is definitely indicated and confirmed by bacteriological evidence.

The Asylum Medical Service.

RATHER more than 12 months ago there appeared in the columns of THE LANCET some letters calling attention to the very unsatisfactory position of assistant medical officers in public asylums for the insane in this country. The note of discontent sounded in these letters has since then found an echo throughout the asylum service, which, by its vigorous resonance, gives convincing evidence of the reality of the grievances that our correspondents sought to ventilate. But we live in times when, as experience should assuredly have taught the medical profession, it is of little use to prove the justice of your cause unless you are in a position to drive home your proofs by arguments of the more practical sort that appeal to public bodies and administrative departments. This fact, we are glad to observe, has been fully recognised by the assistant medical officers. Instead of being content with a simple statement of the disabilities under which they labour, they have very wisely taken steps to organise themselves into an association for the removal of these disabilities and for the protection of their professional interests. This movement was inaugurated at a meeting of the assistant medical officers of the public asylums in the Midlands, held at Birmingham on Nov. 18th, when a provisional committee was appointed and a guarantee fund was raised; and since that date similar action has been taken by the assistant medical officers in the North of England and North Wales at a meeting at Manchester on Dec. 3rd, by their colleagues in the West of England and South Wales, who met at Bristol on Dec. 4th, and by the assistant medical officers of the asylums in the metropolitan district at a meeting in London on Dec. 5th. These proceedings are preliminary to the formation of a general association of officers of this rank in the asylum service of England and Wales.

The conditions which have given rise to this widespread spirit of dissatisfaction are not, of course, altogether of recent growth, but the acute consciousness of their injustice and the resolute determination to alter them may doubtless be attributed in large part to influences which have become increasingly operative within the last few years. Men who by temperament or circumstances are tempted to enter public services can now find many openings offering higher remuneration and more brilliant prospects than can be looked for even in asylums governed by the most progressive committees; the very newness of these openings, ensuring as it does a relatively rapid advancement to positions in which there is larger responsibility and wider scope for initiative, gives them a manifest advantage over an old-established service where promotion is necessarily slow and certain. The multiplication of these more immediately attractive careers, in connexion with the public health service, the inspection of school children, the control of tuberculosis, and so forth, has by contrast brought out more clearly the unsatisfactory features of the asylum service. And when criticism is turned in this direction it finds no lack of suitable material to work on. As Mr. F. J. STUART pointed out in his speech to the assistant medical officers at the meeting in London last month, it is impossible to retain the best men in a service where all but the highest posts are inadequately paid, where promotion to such posts is more dependent on local accident and extrinsic influences than on scientific distinction, and where, moreover, for officers below the rank of superintendent, the conditions of service are in certain respects derogatory to personal and professional dignity. During the past year this question has engaged the attention of the Medico-Psychological Association, and a committee of that body has instituted inquiries into the conditions of asylum work and the status of asylum assistants in other countries. The interim report presented by the committee was published in the *Journal of Mental Science* for last October, and the facts which it sets out are amply sufficient to explain why assistant medical officers in English asylums are dissatisfied with their present position. The circumstances are, of course, very different in different countries, and a comparison of the asylum systems with one another and with the English system is therefore somewhat difficult; but so far as concerns this particular question of the status of assistant medical officers, the facts must certainly warrant the conclusion that, as a general rule, the junior physicians on the staff of a French or German asylum have a wider field of professional activity and enjoy a larger measure of personal independence than do their colleagues in English mental hospitals. Interest in scientific work meets with more direct encouragement, and greater facilities for original research and for special psychiatric study exist. In many countries the senior medical officers have a considerable degree of autonomous responsibility in the treatment of their patients and in the general management of the sections under their charge; and by the general permission to marry and by the liberal provision of suitable married quarters some of the most irksome of the social restrictions that weigh so heavily on assistant medical officers in English asylums are obviated. It is, of course, more than probable that there is another side to this picture, and that the physicians in continental asylums have grievances of their own; but even if this be the case, it obviously cannot constitute any reason why the better features of the asylum systems of other countries should not be adopted and combined with whatever special advantages are to be found in our own institutions. This, it is to be presumed, is one of the immediate aims to which the proposed Association of Assistant Medical Officers will direct its energies, and the action of the Medico-Psychological Association indicates very clearly that in this matter the acknowledged leaders of English alienism are in full sympathy with their junior colleagues. There can be no question that the medical profession outside the psychiatric specialty will be equally ready to adopt the same attitude and to support any well-considered and temperate action calculated to remove the conditions which at present render the asylum service one of the least attractive careers open to the young physician. And there are encouraging signs that the more enlightened public bodies are also fully alive to the urgency of this problem, and that they will welcome proposals of a practicable character tending to bring about a better organisation of the medical care of the insane. The difficulties which are being encountered in finding applicants for the junior applicants in many asylums can hardly fail, indeed, to force the matter on the attention of local authorities.

The very fact that so many conditions are coöperating to form an atmosphere favourable to reform imposes a grave responsibility on those who may have any share in framing the policy of the medical profession in regard to this question. The problem goes deeper than the personal grievances of the assistant medical officers in our asylums; it reaches down to the very foundations of the scientific position of psychiatry and its relation to the rest of medicine. These larger issues we do not now discuss, but they will have to be fully examined and the practical difficulties which they present will have to be met before a satisfactory solution can be found for the questions which are agitating the asylum service. As a preliminary the comparison with conditions which hold good in other countries may again be helpful. It may suggest, for instance, that some of the advantages which are enjoyed by asylum officers abroad are due in large measure to the fact that in continental countries psychiatry occupies a less isolated position and is kept in closer contact with the main stream of medical science than is, generally speaking, the case in England. And, as bearing on this point, it may be worth inquiring how far the more favourable position of psychiatry in these countries is due to the existence of a State service with its wider facilities for interchange between the various asylums, its freedom from the control of petty local interests, and its larger field for scientific ambition. Of course, such a system has its drawbacks as well as its merits, but in the particular case of the asylum service the worst of these drawbacks exist already and are probably inevitable under any system, so that the strongest arguments against State organisation as applied to medicine are irrelevant in this instance. The whole question, however, is one which calls for careful and detailed discussion, and it is, therefore, rather as a tentative suggestion than as a considered opinion that the solution of a State service is put forward as a possible way of bettering the professional and social status of asylum medical officers and of advancing the interests of psychiatry.

The Sterilisation of Milk and Allied Questions.

CONSIDERABLE prominence has been given in the press during the last fortnight to the question of whether milk should be sterilised. This term, it may be observed, has been much misused in regard to milk. Pasteurisation consists usually in heating the milk to a temperature of 150°–160°F. for 20 or 30 minutes; scalding or boiling generally means heating near to boiling point; while sterilising, if strictly carried out, as is the case in a few special processes of limited use, is done by exposing the milk to a temperature of 212°F. for 40 minutes. It is usually assumed that under the first process there is no important change in the composition of the milk, but that there occurs a partial destruction of bacteria, chiefly those of the lactic and coli group. Under the second process a more advanced sterilisation is effected, with some decided changes in the composition of the milk; and under the third, complete sterilisation for all practical purposes, including the destruction of the tubercle bacillus, is attained. The last, however, is claimed to alter the dietetic properties of the milk somewhat further than mere boiling, at least when employed for infant feeding.

In the discussions to which we refer, however, the term "sterilisation" has been applied practically to all processes of heating milk, and has related to the effect of heat both on living organisms and on the ferments and the supposed "vital principles" of milk, on which much stress is laid by Mr. EDMUND OWEN in the letter which will be found in another column. They originated with an account published in the *Times* of Dec. 29th, 1913, of the production of clean raw milk, immediately refrigerated, at Mr. ROBERT MOND'S experimental farm near Sevenoaks, and its use at the Infants Hospital, Vincent-square, Westminster. Mr. MOND is reported to have concluded, from observations made at the latter institution, that children fed from birth on sterilised or condensed milk are habitually weak and ill-nourished and prone to tuberculosis. Similar statements have from time to time been made, sometimes by physicians with special opportunities of observing the health of infants of the well-to-do class who are brought up by hand. But it is well known that they are by no means supported by the experience of the large municipal milk depôts, clinics, and analogous places where hand-feeding is systematically undertaken on a large scale. In these establishments care is usually taken to obtain milk of good quality and free from infection, but almost invariably it is pasteurised or boiled before being consumed, while in the milk depôt at Leicester dried milk, which has presumably been thoroughly devitalised (to use a current expression), has been exclusively used for years. The consideration that infantile scurvy or scurvy-rickets may, though rarely, result from the treating of the milk is usually taken into account, and the concurrent use of lemon or orange juice recommended as a preventive; but with this reservation the results obtained and published certainly seem to prove that boiled or pasteurised milk is capable of affording the essential nourishment of infants and that infants thrive on it.

Some of the data available on this subject, principally from foreign sources, were collected two years ago by Dr. J. E. LANE-CLAYPON, and issued in pamphlet form by the Local Government Board. They showed in the case of man and the lower animals alike that for the young of a given species there is an undoubted superiority—probably attributable to the protein constituent—in milk derived from animals of that species over milk obtained from other species, whether sterilised or not. Such differences as could be shown between the results of sterilised and unsterilised cow's milk when given to infants were of a very minor order, not to be compared with those which obtained between cow's milk and human milk. The criticism may be made that the infants which get fed through the agency of milk depôts and clinics soon pass out of observation when they cease to be infants, and their after-history, in the matter of rickets, tuberculosis, and other ailments, is not fully ascertained. But this deficiency in evidence is not proof that they have been harmed by the heating process applied to the milk. Any new facts which can be obtained in this direction will be of great value and will deserve and receive careful study, but it will be necessary for fresh observations to be exact, prolonged, and on a scale of considerable magnitude if they are to produce the conviction that to submit cows' milk to sterilisation before giving it to the infant is to create a substantial danger to the infant's health. Mr. MOND also considers the risk run by the consumption of milk from tuberculous cows to be greatly over-estimated, and bases this on his own escape from the disease after drinking such milk, and on the argument that children fed with milk from tuberculous cows have not developed tuberculosis. An argument thus presented, however, must be somewhat futile, even on the assumption that in each case the observations have been maintained sufficiently long to be of practical value. It is no more to be expected that every child who takes a dose of tubercle bacilli in its milk should contract clinically recognisable tuberculosis than that every child who comes into close contact with an advanced case of human phthisis will do so. The proportion of town milk in which tubercle bacilli can be found is so large that on this conception of its virulence we should soon have no child population at all. The facts remain that tuberculosis of childhood is widely and seriously prevalent, and that there is a mass of research, including the invaluable investigations of the recent Royal Commission on Human and Animal Tuberculosis, which establishes the conclusion that a large proportion of the cases of tuberculosis occurring in childhood in this country are due to tuberculous infection of bovine origin—in other words, to tuberculous milk.

The risk of tuberculosis, together with the results of other infections and contaminations to which milk under present commercial conditions is liable, has to be set against the suggestion of risk, such as it is, from "sterilisation" in some form. Present knowledge seems to require that an affirmative answer should be given to the parents who have no reliable guarantee that the infant's milk comes from healthy cows and is otherwise properly treated, and who ask whether they had better boil it or at least subject it to thorough pasteurisation. Apart from the special question of infant feeding, indeed, the same answer must be given as regards the usual domestic supplies of milk. It ought not, however, to be necessary, and with the habitual preference shown for raw milk in this country the advice is not likely to be generally followed. For this reason we have strongly insisted upon the importance of the general revision and consolidation of the laws relating to the milk-supply which has so long been promised, together with the vigorous local action for the suppression of bovine tuberculosis, for which it is understood that the proposed legislation will provide. The suggestion has been made that, as the Government has so long delayed measures to protect the milk-supply at its source and in its distribution, the milk traders should themselves reassure the public by pasteurising all their milk in bulk before it is distributed; and several large firms, we believe, already adopt this practice. Its sufficiency, however, as a protection to the public is open to considerable doubt. The destruction of infective bacteria, if attained, is a clear gain. But unless sterilised or pasteurised milk is at once received in sterile receptacles, and there kept until used, other and substantial dangers may arise. The ordinary methods in which milk is conveyed, distributed, and stored in this country are quite unsuited for sterilised or even pasteurised milk. And it is noteworthy that in America, where pasteurisation in bulk is more usual than it is here, health authorities are energetically demanding that receptacles containing pasteurised milk should be labelled as to temperature and time of pasteurisation, and that commercial pasteurisation should be subject to rigid regulation and supervision.

KING'S COLLEGE HOSPITAL.—In their latest report the committee of the King's College Hospital Removal Fund, of which Lord Hambledon is chairman, announce that the contributions to the fund during the year ending August 31st, 1913, amounted to £24,121, not including £9438 promised but at present unpaid. Since the commencement of the appeal the committee have received a total sum of £382,114, of which £48,000 have been contributed by King Edward's Hospital Fund. In order to extinguish the debt a further sum of £100,000 is still needed.

Annotations.

"Ne quid nimis."

THE MOVEMENTS OF THE LARGE INTESTINE.

To the philosopher of the future, as he looks back upon the progress which has been made during the last few years in the study of the intestinal movements, there will be presented the strange spectacle of the growth of two schools of thought which, though working in apparent harmony, are yet as different as can well be imagined. The past year has seen the rise, and the very wide acceptance, of a doctrine of mechanical obstructions to the normal passage of the intestinal contents; it has also marked the free use of an eponymous nomenclature which has very little merit. That giant Vesalius has but one meagre and inconstant foramen in the cranial wall named after him, and even this, in these days of terminological reform, is like to be swept away; those with any love for the traditions of anatomy must therefore regard with horror the naming (however ephemeral the terminology is likely to be) of chance peritoneal bands and intestinal moorings after this one and that. We would not be so pessimistic as to look on these things as long-lived blots on anatomical terminology; but we would make protest against their coining. With the mechanical view in mind the alimentary canal has proved a happy hunting ground; a bend in the tube, a mechanical disadvantage, an obstructing band, an adhesion—all have been eagerly sought out, and a new terminology, mostly eponymous, has been thrust into the literature. Meanwhile, and more quietly, other work upon the passage of food along the alimentary canal has been carried out, and things only guessed at before have been patiently watched by means of the X rays. We have now a very complete knowledge of the movements which urge the food-mass onwards, and more than a guess as to the nature of the impulses which regulate these movements. In recent papers by Hertz and Newton[1] it is made abundantly clear that the ileum possesses the terminal sphincter which was claimed by Professor Keith, as an anatomist, more than 10 years ago; and further that this sphincter governs (as Keith suggested) the flow of contents from ileum to cæcum. It is now demonstrated that this sphincter is regulated by impulses connected with the passage of food into the stomach—the gastro-iliac reflex. Normal iliac stasis is therefore to be regarded as the outcome of this regulating mechanism; abnormal iliac stasis seems clearly due to some defect of this mechanism. Again, after the cæcum and colon have become filled by the passage of intestinal contents through the ileo-cæcal valve, movements of the large intestine are apparently produced by the stimulus of the entry of food into the stomach—the gastro-colic reflex—which in most individuals results in defæcation after breakfast, although the desire to defæcate may also be manifested after other meals. A theory makes a very powerful appeal, and the clinical support which it receives is undoubtedly strong; but the risk is lest it should be regarded as the whole story. Its apparent mechanical simplicity should be in itself a warning that it is not likely to be the complete explanation of what is almost certainly a subtle vital process. The mechanical disabilities which intestinal movements are able to overcome, rather than the ready impediment of intestinal contents by bends, or twists, or turns, is the fact which strikes the observer when studying the intestinal canals of different vertebrate types. On the other hand, common experience compels a belief in some gastro-colic reflex—a reflex which may be abnormally sensitive in conditions of so-called nervous or lienteric diarrhœa, while the detection of the vital rôle of the ileo-colic sphincter is a remarkable vindication of the findings of the anatomist. We are, perhaps, too near to the period of the actual discussion to survey opposing views in their proper perspective, and there lies behind them more than mere academic discussion. To the questions—Is intestinal stasis a complaint which falls within the province of the surgeon or of the physician? Should we attempt operative interference with the alimentary canal? or Should we attempt to re-educate a neuro-muscular reflex, which from some cause or other has fallen below its normal activity?—no general answer can yet be given.

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[1] See Journal of Physiology, Vol. XLVII. Nos. 1 and 2, 1913. (Two papers.) By Arthur F. Hertz and Alan Newton.

ANTS AS TRANSMITTERS OF TROPICAL DISEASE.

No suspicion until lately has arisen that the industrious ant might upon occasion act as the transmitting agent of infection to man. It was known that some species, such as the white ant, had very destructive tendencies in certain parts of the tropics, and that the bites of some large tropical ants caused a good deal of general disturbance, being attended with faintness and shivering and sometimes with temporary paralysis. It was also known that some savage races used the dried bodies of ants, beaten into a paste, as an arrow poison, but it is only of late that suggestion has been made that this insect might convey pathogenic bacteria to man. The ant is commonly found in and around the dwellings of people residing in the tropics. It is, indeed, a matter of difficulty to keep this insect away from foodstuffs in such houses, and it is equally difficult to keep the ant away from human dejecta when these are not properly disposed of. So that it cannot be doubted that the ant has the opportunity of carrying from infected excreta the specific organisms of disease to the food stored in human dwellings. Not long ago one writer drew attention to the possibility of the ant spreading anthrax. In 1908 Dr. Andrew Balfour, then at Khartoum, in his "Review of Recent Advances in Tropical Medicine," discussed the suggestion that ants might be to blame for carrying cholera infection from contaminated fæcal matter to human food and drink. His experience was that at Khartoum ants were more in evidence than flies, and that from their crawling habits and scavenging propensities they could play a considerable part in the conveyance of cholera and similar infections. Little or no experimental work, however, had been done to obtain proof that ants were capable of transmitting diseases to man; but in 1912 Dr. L. B. Bates, bacteriologist to Ancon Hospital in the Panama Canal Zone, undertook a series of experiments with the view of putting to the test whether or not the ant acted as a transmitting agent of such infections as enteric fever and bacillary dysentery. His results were published lately in the Proceedings of the Canal Zone Medical Association, Vol. V., Part I. His investigations were carried out with the large yellow ants which are found in and around the houses in the Canal Zone. He fed a number of these insects on bread soaked with cultures of B. typhosus for five days, killing and examining some of them at certain intervals, but in no instance was he able to recover the typhoid bacillus from the intestines of the ants. The experiment was carefully repeated with like negative results. He then tried to determine if the ant could carry the specific organisms on its legs or body, in a purely mechanical way, to human food. A number of the insects were dropped into a broth culture of B. typhosus and allowed afterwards to crawl out and walk over Petri dishes, the bottoms of which were covered with filter paper, at varying intervals up to 24 hours; after that they were placed on the media in Endo plates. The typhoid bacillus was easily found in every instance. This experiment was repeated several times, and in the majority of cases positive results were obtained. It is known that the body of the ant contains a certain amount of formic acid. Dr. Bates infers, therefore, that under such circumstances it would be almost impossible that any typhoid bacillus could survive for any length of time in the intestinal canal of the ant. He concludes that the ant under certain conditions is capable of becoming an active agent in the transmission of enteric fever or bacillary dysentery to man, but only in a mechanical way. The same is almost certainly true as regards cholera. It would be of advantage if further experimental work in this direction could be carried out.

FRACTURE OF THE PELVIS IN A CHILD.

FRACTURE of the pelvis in childhood is rare because of the smallness and elasticity of the bones and the suppleness afforded by the symphyseal and epiphyseal buffers. In the "International Encyclopædia of Surgery" Packard says: "Fracture of the pelvis is almost unknown in children. The youngest patient I remember to have treated was 16 years old." In the *New York Medical Journal* of Nov. 5th, 1913, Dr. P. G. Skillern has reported the following case. A boy, aged 7, was taken to hospital. While at play on the previous day he was struck by an empty lime box over the pubic region. Examination revealed an ecchymosis between the anterior superior iliac spines and the symphysis pubis and tenderness over the ossa pubis. There were no signs of injury to the bladder, and the child could walk without difficulty. Bimanual recto-abdominal palpation, in which the pubic arch was sandwiched between the examining hands, again elicited wincing and tenderness, but no unevenness of the bones, crepitus, or preternatural mobility. There was a small hæmatoma in the space of Retzius. A skiagram showed bilateral symmetrical oblique lines involving the bodies of the pubic bones, each starting at the upper part of the symphysis and extending downwards and outwards to the margin of the thyroid foramen 1·5 cm. below the pubic crest. On the right side the fracture line passed across the lower part of the thyroid foramen to involve the body of the ischium just above its junction with the tuberosity. On the left side the ischium was uninvolved. The child was placed on a fracture bed. These lines of fracture were in keeping with the following description by Packard: "When a crushing force is brought to bear on the whole pelvis the bone may give way at two or three different points. One or the other side may be specially acted upon. In any case, however, the pubis would seem to yield first in its horizontal ramus, when there must be a fracture also somewhere between the symphysis pubis and the tuber ischii." In the present case the injury stopped short of crushing and displacing the bones. The absence of subjective symptoms was due to the subperiosteal nature of the fracture, there being even not enough displacement to involve the bladder. Perhaps it escaped because it is chiefly an abdominal organ in childhood. But for the ecchymoses and the wincing on examination arousing suspicion sufficient to resort to skiagraphy the fracture would have escaped detection.

METAPLASTIC BONE AND MARROW FORMATION IN VESSEL WALLS.

IN the *Cleveland Medical Journal* for November, 1913, Dr. H. O. Ruh has published an important paper on a subject which has not received from pathologists the attention it deserves—*metaplastic* bone for [illegible] has recently [illegible] ification and ossification in unusual situations, especially in arteries and veins. Dr. Ruh reports the following case. A woman, aged 58 years, was admitted into hospital suffering from dyspnœa and swelling of the lower limbs. At the age of 30 years she had an attack of rheumatism, from which she recovered without cardiac symptoms, but during the last eight years she had suffered from cardiac distress. On examination mitral regurgitation and obstruction were found with failure of compensation. The urine contained albumin and a few epithelial cells. She died soon after admission. At the necropsy about 1000 c.c. of serous fluid were found in the peritoneal cavity, and the liver reached 4 cm. below the costal margin. The heart was greatly enlarged and weighed 675 grammes. The right auricle and ventricle were much dilated and formed the greater part of the organ. The mitral valve was reduced to a slit-like aperture by fusion of the cusps and fibrous thickening. The aorta throughout was thickened and scarred and showed numerous atheromatous plaques, atheromatous ulcers, and calcified areas. Below the cœliac axis the atheromatous process was especially marked. Just above the bifurcation a shelf of dense hard tissue with irregular edges projected into the lumen. On its upper side was a greyish-red thrombus which further occluded the already narrowed lumen. About 1 cm. above the bifurcation of the aorta was a pinkish-grey occluding thrombus firmly attached to the wall. This extended downwards into the common iliac arteries for a distance of 3 cm. in the left and 2 cm. in the right. On the right side the thrombus was evidently more recent than on the left; it was more pinkish and not so dense. On the left side the thrombus was completely organised, very dense, nearly white, and cut with much resistance. In fact, the vessel suggested a fibrous cord. The iliac arteries just below the thrombus were much sclerosed. There was also moderate general arterio-sclerosis. Microscopic examination of the aorta below the shelf mentioned showed great thickening of the adventitia and degeneration of the elastic fibres of the media. Around one-half of the vessel, partly in the media and partly in the intima, was an area composed of osseous tissue with large spaces containing red marrow in which all types of marrow cells were present. In the neighbourhood were large collections of osseous deposit. The bone showed a definite lamellar structure and numerous typical bone corpuscles. With high magnification a layer of cells resembling osteoclasts, and forming a membrane covering the osseous tissue, could be found. A number of scattered cases of heteroplastic bone formation can be found in medical literature. The following sites have been given: vessel walls, mucosa of the bladder, laparotomy scars, lung, pia and choroid plexus, dura, pleura, eye, stomach, liver, lymph nodes, heart valves, adrenals, and testes. More careful examination would probably show that the condition is commoner than is supposed. Kryloff estimates that in 15 or 16 per cent. of all cases of advanced arterio-sclerosis there is bone formation. In 1826 Andral described a case in which it was present in the aorta of a girl aged 8 years, and five or six cases in patients between the ages of 16 and 24 years. He also referred to a case of ossified temporal artery in an infant aged 15 months. Howse in 1877 found in an axillary artery a focus of bone. In 1866 Paul demonstrated at the Pathological Society of London a portion of a sclerotic tibial artery with a focus of osseous tissue in the intima. Considerable experimental work has been done on metaplastic bone formation. It has been produced in the kidney by ligature of the renal artery. Care must be taken in calling a process metaplasia, as the distinctions from various processes of growth are not so sharply defined as is generally supposed. Ziegler defines metaplasia as "that process by which a fully developed tissue is changed into another tissue without passing through an intermediate cellular stage." It is a well-known physiological process and occurs at all periods of life. The most common examples are the conversion of connective tissue cells into fat cells and of cartilage into bone. Such closely allied processes as heterotopia, in which there is a congenital or acquired snaring of cells of a tissue with subsequent growth out of place, must not be confounded with metaplasia.

SLEEPING SICKNESS IN THE ISLAND OF PRINCIPE.

WE drew attention recently[1] to the hopeful attitude adopted by Professor John L. Todd, of Montreal, regarding the possibility of ultimately preventing the occurrence of human trypanosomiasis in tropical Africa, notwithstanding the somewhat gloomy opinions expressed by some other experts upon the subject. Since then we have seen a report[2] on sleeping sickness in the island of Principe, written by Surgeon-Captain Bernardo F. Bruto Da Costa, chief of a commission appointed by the Portuguese Government in 1912 to investigate the prevalence of the disease in the colony. This report gives a sanguine view of the situation, and goes so far as to say that if the means indicated by the commission were provided by Government the malady could be eradicated within a year. It has, however, to be borne in mind that the problem is less difficult in Principe, an island some distance from the African mainland and with a population numbering not quite 5000, than it is in other parts of West Africa where re-importation of infection is easy and frequent. The chief industry of the island is the cultivation of the *cacao* plant, this being done mainly by imported labour. For many years sleeping sickness has been prevalent in Principe, which is about the size of the Isle of Wight, situated in the Gulf of Guinea, 135 miles from Fernando Po and nearly the same distance from the West African coast. It is stated that at one time the disease threatened the extinction of the entire population. Little, however, has been done until lately to check the spread of the infection, the planters and the natives having been equally apathetic. The special measures recommended by experts previously sent to deal with the malady were allowed, as Captain Da Costa says, to remain on paper "to the grave disgrace of agriculture and humanity." The late commission began its labours in August, 1912, and although at first they met with the same passive resistance as their predecessors, in time they convinced the planters, who are now eagerly coöperating with the staff of the commission. The report deals with ten months' work done by Captain Da Costa's "official brigade" in conjunction with the planters. The "official brigade" comprised 150 men, imported labourers, along with some convicts, who, however, were carefully trained to carry out their duties. The action taken included the draining of swamps and swampy land, the felling of timber in places where shade was afforded to the tsetse flies, the eradication of secondary growth of jungle-scrub, the clearing of the beds of streams from obstructions, the slaughtering of pigs and other animals running wild on which the glossinæ were found to feed, and the trapping of these flies by means of men wearing black cloaks or coverings on which had been smeared birdlime or some other sticky stuff. This plan for trapping tsetse flies was devised some years ago by a Principe planter named Maldonado, and we described it in THE LANCET of Feb. 12th, 1910. In addition to the above measures, medical inspection of the workpeople of the island was carried out in order to discover unrecognised cases, 125 such instances being brought to light. The blood of a number of domestic and other animals was examined to ascertain if trypanosomes were present; 52 of the animals were found infected, and they were at once slaughtered. During the ten months' period that the "official brigade" was at work, 235 wild pigs were killed, 251 "lagaias," and 272 dogs; besides these, 300 other dogs were destroyed in the small urban district of Sao Antonio which Captain Da Costa found in an extremely insanitary condition. Some attempt was made to protect domestic animals against trypanosome infection by administering injections of atoxyl, but this plan turned out to be inefficacious. The number of tsetse flies caught in the above-mentioned period by Maldonado's method was 110,691. Directions were given that anyone bitten by a glossina fly should at once receive a hypodermic injection of atoxyl. All persons proved to have trypanosomes in their blood were immediately isolated. After these measures had been in operation a few months there was a marked decrease in the number of cases of sleeping sickness and in the number of tsetse flies observed upon the plantations, amounting in some instances to entire disappearance. Captain Da Costa, as has been said, expresses the confident opinion that if the measures described above were fully carried out and the "official brigade" increased in number, sleeping sickness could be eradicated in Principe within a year. Principe, it may be added, is characterised by some authorities as "the garden of Africa," owing to its fertility and the richness of its vegetation. It is a pity that Captain Da Costa has not given us statistics of the incidence of sleeping sickness in the island in previous years for comparison. He, however, states that during the ten months' period ended May, 1913, 362 persons were under treatment for the disease.

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[1] THE LANCET, Dec. 13th, 1913, p. 1709.

[2] Sleeping Sickness in Principe. By Surgeon Captain Bernardo F. [illegible]

PERFORATION OF THE STOMACH IN TYPHOID FEVER.

ULCERATION of the stomach in typhoid fever is very rare. Perforation is still rarer; indeed, it is difficult to find a case on record which will bear examination. Hence the importance of the following case reported at a meeting of the Société Médicale des Hôpitaux of Paris on Nov. 14th, 1913, by M. A. Bergé and M. Barthélemy. A man, aged 21 years, was admitted into the Broussais Hospital on April 30th, 1913, suffering from fever and catarrhal pharyngitis. On the following days the temperature rose by steps from 100·4° to 102·2° F. On May 10th diarrhœa, rose spots, and slight albuminuria appeared. The spleen became slightly enlarged, and on the 20th the typhoid bacillus was cultivated from the blood. But the serum reaction was persistently negative. From the 15th the patient complained of pain in the left hypochondrium. The pain lasted for a fortnight, with variations in intensity, and then disappeared. There was no vomiting or other gastric symptom. The attack ran a usual course, except that the diarrhœa continued for a long time. The temperature progressively fell and became normal on June 3rd. The patient took nourishment well and gained strength, but did not put on flesh. He was discharged on June 30th. On July 3rd he was readmitted in a state of profound collapse, with cadaveric pallor of the face, cyanosis of the extremities, and subnormal temperature. On the 4th there was marked dyspnœa, a thready pulse of 104, and a rectal temperature of 96·8°. All over the chest bronchitic râles were heard. The abdomen was slightly distended, supple, and was not painful. The patient was almost unconscious, and passed abundantly yellow diarrhœic motions. He did not vomit, and died in a state of collapse. At the necropsy the body was found extremely wasted. The peritoneal cavity contained 200 grammes of sero-fibrinous liquid. The intestinal coils looked almost normal. On the ileum, about three or four centimetres from the cæcum, was a reddish zone with slight fibrinous exudate but no perforation. Further on the intestine was attached to the peritoneum lining the pelvis by a slight fibrinous cord. Inside the intestine at these two points were healed ulcers. Other healed ulcers were also found. The mesenteric glands were swollen, and one contained thick greenish-yellow pus. The spleen was very large and soft, and at its hilum was an abscess of the size of a mandarin orange. It was limited anteriorly by the posterior surface of the stomach, externally by the spleen, and posteriorly by peritoneal adhesions. On opening the abscess by removal of the spleen an infundibuliform depression was seen on the stomach, which led to a perforation. Viewed from inside the stomach the perforation was round and smaller than a 50-centime piece. Its borders were regular and appeared to be cicatrised. The right pleura contained about 100 grammes of hæmorrhagic fluid. The bases of the lungs were congested. It might be suggested that the gastric lesion was an ordinary round ulcer which had perforated during the course of typhoid fever. However, the appearance of the ulcer and the absence of hæmatemesis and other gastric symptoms were not favourable to this hypothesis. It might also be suggested that an extra-gastric abscess originating in a lymphatic gland or in the spleen had perforated into the stomach. Against this view was the integrity of the spleen and the absence of a probable cause of such an abscess. It appeared that a typhoid ulcer of the stomach had perforated and produced the abscess, and that the condition ran a latent course before producing the final collapse. Perforation of the stomach in typhoid fever is so rare that Professor Chauffard in his erudite Thèse de Paris does not mention it. Millard has reported a case of typhoid ulcer of the stomach involving all the coats except the peritoneal which was transparent at some points.[1] M. Bergé and M. Barthélemy could find recorded only one case of gastric perforation in typhoid fever. Mazetti[2] has reported the case of a man who was admitted into hospital on July 18th, 1907, suffering from typhoid fever which ran an ordinary course except for persistent pains in the left flank, which began on July 30th. Apyrexia and convalescence began on August 11th, but on Sept. 7th an attack of subacute peritonitis occurred and rapidly proved fatal. At the necropsy a rounded perforation of the size of a two-centime piece was found on the posterior surface of the stomach near the pylorus. Its borders were abrupt and not indurated. There were several other gastric ulcers which were more superficial.

THE SHORTAGE OF ANATOMICAL SUBJECTS.

Professors of anatomy and teachers of operative surgery have for years been complaining of the difficulty of obtaining "subjects" for dissection, and beyond all doubt the teaching both of anatomy and of operative surgery has long been hampered by a deficiency in the supply of bodies. Twenty years ago the supply was beginning to fall off sufficiently to be felt, and it has steadily diminished year by year ever since. Things have got to such a pass now that the Royal College of Surgeons of England has been moved to action, and has pressed the matter upon the attention of the Home Secretary, but so far no concrete proposals for solving the problem have been put forward. The attention of the lay press has, however, been gained, and reminiscences of Burke and Hare have naturally undergone resurrection. This way prejudice gathers; and politicians are not likely to go out of their way to bestir themselves in a matter which can scarcely bring them votes in any event and is liable to be used as a party catchword against them. The public, too, is little moved by reasoning, however sane and cogent it may be, directed to showing the advantages of anatomical knowledge in physicians and surgeons, or the disadvantages of a lack of it. The medical profession must expect no help from without, but must produce its own schemes for increasing educational facilities in this respect and must be prepared for strenuous opposition from sentimentalists even to the most reasonable and necessary suggestions. In these circumstances teachers of surgery and the examining corporations in that science might well consider a plan which was suggested a year or two ago, we believe in America, and is said to have worked well. The adoption of this expedient would set free every year, and leave available for the teaching of anatomy, a considerable number of bodies which at present are used up in operative surgery classes and examinations. Briefly, the idea is to perform representative abdominal operations upon the pig under full anæsthesia, with complete aseptic precautions, the animal being treated with every care and attention. As matters stand, the operations practised in classes of operative surgery are largely those which Listerism has long ago rendered rare or obsolete; while the common procedures of the modern operating theatre are perforce omitted altogether from the course. The American scheme would not only do something, though not perhaps enough, to remove the difficulties of the teachers of anatomy, but would in addition enhance the value of training in operative surgery, which at present is not so great as it should be. There would, no doubt, be determined opposition to the necessary modifications of the vivisection laws, but at least here is a constructive contribution towards the solution of a difficult problem. We see its disadvantages as clearly as its advantages.

INSANITY AND AMENORRHŒA.

Since the discussion of the connexion between amenorrhœa and insanity at a joint meeting of the Obstetrical Section of the Royal Society of Medicine and the Medico-Psychological Association more than a year ago, attention has been directed afresh to the question whether there is or is not a form of insanity so closely connected with amenorrhœa that re-establishment of the menstrual function cures the mental disorder. In the *Australian Medical Journal* of Nov. 15th, 1913, the recent literature of this subject is summarised by Dr. J. W. Dunbar Hooper, who reports a somewhat remarkable case in point from his own practice. The patient when he first saw her was 21 years old. She was anæmic and constipated, and had suffered from melancholia for three years, during which time she had menstruated twice only, very scantily and with great pain. After more than 12 months of treatment, which included curetting, she was placed in an institution, where she spent a year. She was then found to be suffering from religious mania with amenorrhœa, was occasionally vicious, and at such times refused food. It was decided to remove an ovary and to substitute for it a more normal organ taken from a sane person. A hysterectomy upon another patient provided the required material, which after removal was placed in Ringer's solution at blood heat. Four and a half hours later the abdomen of the insane woman was opened. Both ovaries were very small, hard, pale, and cirrhotic. The more abnormal of the two was removed, the broad ligament on that side split, and the new ovary, cut into three slices, was embedded in the nest thus provided. Recovery was uneventful, and 24 days after the operation a normal, painless, profuse menstruation took place. The mental condition improved rapidly, and in six months the patient was dismissed to her home. She was then menstruating regularly, had put on 6 lb. in weight, and was exceptionally bright and happy. She declared her intention of doing her utmost to repay her parents for the trouble and expense of her treatment; in a word, her insanity had entirely vanished. Dr. Hooper

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[1] Bulletin de la Société Médicale des Hôpitaux de Paris, Dec. 8th, 1876.

[2] Riforma Medica, Napoli, 1908, vol. xxiv., p. 487.

HEALTH TEMPLES IN ANCIENT GREECE AND THE WORK CARRIED ON IN THEM.[1]

By Richard Caton, M.D. Edin., LL.D. Edin. & Liverp., F.R.C.P. Lond.

The subject on which I have the honour of speaking to you this afternoon is of such wide range that in the time allotted I can only deal with it in bare outline. While knowledge as to the health gods, the shrines of healing, and the practice of medicine generally in ancient Greece has grown rapidly during late years, still there is much that is vague and uncertain as regards origin and the detail of methods. Egypt seems to have preceded Greece in medical lore and also in the superstition which accompanied it. How far Greece learned from Egypt it is hard to say, but there can be little doubt that many Egyptian methods were transported into Greece. The reference in the fourth book of the Odyssey to the superiority of Egypt in medicine is one proof of this; the adoption by the Greeks of the strange custom of incubation, long practised in Egypt, is another. In the dim twilight of Greek history Apollo was in some vague and distant way a healer. But by degrees minor deities who specialised more definitely in medicine took his place; they mostly were deified men, and of some of them I wish now to speak to you.

The Health Temple of Amynos.

The first I refer to, viz., Amynos, has been for centuries utterly forgotten, and indeed there is no reference to him in Greek literature until a later date, and then, curiously enough, only in the writings of the Christian Father Eusebius. His ancient cult was only rediscovered a few years ago. Amynos was an Athenian god of healing. His name doubtless comes from the Greek word αμυνεῖν, to protect, guard, defend, help. He was the helper and protector of the sick. When Professor Dörpfeld excavated the region of Athens between the Areopagus and the Pnyx he laid bare a part of the city forgotten and grass-grown for many centuries, containing streets, houses, and shrines, and among them the Amyneion or precinct of Amynos. Here I show you a ground plan of the region portraying small houses, narrow streets, water-pipes, and sewers. The Amyneion is an irregular area bounded by a wall with foundation of hard blue limestone, having a temple or chapel at its eastern side. In this plan of the precinct you see an altar or base of an image in the centre of the temple, also a sacred well. Many inscriptions were found.

Here is an attempt at a restoration of precinct and grove and of the ancient temple. Its date is best judged by the pottery, Attic black figured, proto-Corinthian of 700 B.C., and lowest of all Greek geometrical pottery of 900 or 1000 B.C. were found. The temple at that date would have a stone foundation with walls of sun-dried brick covered with cement. The colonnade and pediment, if existing, must have been of wood, the columns formed of rough pine trunks. No stone drums of column nor any parts of a stone frieze have been found. Many inscriptions of later date were discovered. The cult of Asklepios came to Athens about 420 B.C. Inscriptions are mostly to Amynos and Asklepios, and sometimes to them and Dexion (Sophocle Fragments of marble snakes are found, and numbe of remains of sculptured figures and ex-votc Here are some examples. Asklepios seems to ha been quite secondary to Amynos in the shrine, a up to Roman times Amynos holds his pre-eminenc Was incubation practised here? We have no info mation. A second foundation has been found whi possibly was the wall of a shed for incubation. N is anything known about baths, drugs, or metho of treatment. But treatment seems to have bee greatly valued, if we may judge from the inscri tions and ex-votos.

The Health Temples of Amphiaraos.

Secondly, I wish to speak of the precinct Amphiaraos near Oropus in Attica. This was t chief sanctuary of the god, though others existe as at Rhamnus, Argos, and Sparta. In a pleasi glen, well clothed with pines, planes, and oleande through which a stream flows and in which ma nightingales lift their voices, the shrine was bui Amphiaraos, a son of Melampus or Apollo, was a p historic warrior and a hero, one of the Sev against Thebes and one of the Argonauts. Wh flying from his enemies the earth opened ne Oropus and swallowed up Amphiaraos and chariot. Why he should have become a gr healing god it is hard to say.

On the north-west of the stream on a flat strip ground stand the remains of the sanctuary. M to the west are the ruins of the Temple Amphiaraos, a building 95 feet long and 43 w having a broad columned portico at the east e six columns between antæ. The cella had th aisles, separated by rows of columns. At the sou west end was apparently a small porch 8 feet b A large square base stood near the centre of t cella, on which no doubt stood the great image Amphiaraos—part of a colossal arm found w doubtless part of the figure—it was rather near the eastern end than the west. Probably t temple was not hypæthral, for if so rain wou fall on the god; louvres more probably lighted t cella. In front of the temple stood a large alta 28 feet long and 14 broad, built of limestone. was dedicated to several gods. Three long curve steps are seen on the north of the altar, on which n doubt worshippers stood or sat. The sacred sprin rises a few feet south of the altar, and was used fo special purposes only (not for washing hands no for purification). Amphiaraos rose as a god fro this spring—hence its sanctity. North of th temple and altar stood a large number of pedesta bearing statues.

North-east of the temple is a large stoa 360 fee long and about 36 wide. It has an open Dori colonnade of 49 columns on the south-east side, the other three sides having solid walls. At each end is a chamber about 24 feet wide, and between them a long space of 310 feet (gratings in separation walls). A central line of 17 Ionic columns divided the stoa into two aisles. A marble bench ran along the back wall. The inner face of the wall was stuccoed and painted. Traces of painting still remain. This was the abaton, enkoimeterion or ward; the women occupied the western end, the men the eastern. Behind the colonnade, excavated from the hill side, is the theatre, with circular chorus space about 40 feet wide. The stage was about 40 feet by 20. North-east of the abaton o ward is a series of bath rooms, ten in number, dating from the third century B.C., but Roman alterations are evident. Two rooms have a hypocaust. Men and women had separate rooms.

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[1] A paper, illustrated by 60 lantern slides, read before the Section of the History of Medicine of the Royal Society of Medicine, on Dec. 17th, 1913.

The inscriptions indicate that the sanctuary was ounded at the end of the fifth century B.C., and that it was closed during winter. The priest was obliged to be present not less than ten days in each month and never to be absent more than three days at a time. The nakaros or sacristan was to attend regularly to his own duties. Any patient misbehaving might be fined five drachmas. On admission each patient paid a fee of not less than nine obols. The priest, when present, must pray over the victims and put their flesh on the altar. The shoulder of every animal sacrificed, and in some cases both shoulders, were given to the priest, also the skin was ultimately his property. The patients might eat most of the flesh of the sacrificed animal, but no part of it might be taken beyond the precinct. The nakaros wrote down all the names and addresses of the sick. Before incubation each patient sacrificed a ram, and he used its skin as a bed, lying upon it in the abaton. Then incubation commenced, and he nightly awaited dreams and visions of the god.

Whether or not any drugs were given, no one knows. A special diet with occasional abstinence was enjoined—fasting from all food for one day and from wine for two. No beans were allowed. When recovery took place the convalescent dropped gold or silver coin into the sacred well (which offering presumably was subsequently abstracted by the priest). Models in gold or silver of the diseased organ or limb were suspended in the temple near the figure of the god. Many gold and silver vessels and ornaments were given. There was a festival of the god every fourth year. That is all that is known.

The shrine of Trophonios of Lebadea near Thebes had a lesser vogue for cure of the sick. The methods were somewhat the same: incubation and sleeping on the skin of a black ram.

Asklepios: the Temple at Epidaurus.

It is difficult to date the rise of the cult of Asklepios—probably it was later than that of Amynos—but it dates back to Homeric times. Tricca was probably its source, but Epidaurus the great centre where it chiefly flourished and whence it spread to all parts of Greece, Magna Graecia, and Rome. The site of the Hieron was six miles inland from the town of Epidaurus. At the time of its greatness an extensive precinct occupied the beautiful valley extending from the hill Titthion, where Asklepios was suckled by a goat, to Kynortion, on which stood the Temple of the Maleatean Apollo. Here is a rough bird's-eye view of the precinct as seen from the south—a splendid array of temples, stoæ, a great theatre, a stadium and grove. Here is the gateway with well for ceremonial purification, and the northern boundary wall. Here is the central temple of Asklepios, built in the fourth century B.C. The eastern façade presented a richly decorated and coloured scheme. The eastern pediment represents a combat of Greeks and Amazons, the western a conflict with Centaurs—Victory on the apex, and Nereids as acroteria; an elaborate ivory door. A side view of the temple shows the works of art adjacent to it, and behind it a part of the abaton. A sketch of the interior shows the splendid gold and ivory figure of the god with a golden serpent and a temple dog. Chryselephantine sculpture is very beautiful; the ivory, however, tended to crack, as was found at Athens and Olympia. But this great figure of Asklepios never required to be moistened with oil or water, as did the others, for the god of physic we may presume knew how to preserve his own integument. Only the floor of this temple and fragments of its decorations remain.

The abaton, or enkoimeterion, or hospital ward was employed probably half for men and half for women. On the south it has an open colonnade. So whatever other therapeutic agencies were employed there is no doubt that pure fresh air was enjoyed by the sick who occupied it. At the west end it was two storeys in height. Here incubation took place, the sick awaited the personal aid of the god or of the serpents, or they hoped for dreams or visions guiding them as to the best treatment for their several ailments.

Here is the Tholos or Thymele, an extraordinarily beautiful building of white marble coloured in parts. It was the most splendid circular building ever erected by the Greeks, dating from the third century B.C., built by Polykleitos the Younger. It was Doric externally, Corinthian within. Within were two celebrated paintings, Methe (drunkenness) and Eros, suggesting the relation of Dionysus and Aphrodite to the ailments which afflict mankind. There are various opinions about the function of the Tholos. Some think it was the sacred well. The foundations are curious, a dark labyrinthine basement, which I think cannot have been a water-tank, because, firstly, it was not cemented and would never have held water; secondly, there is no spring nor conduit leading to it; thirdly, the word Thymele means a sacrificing place; and fourthly, Pausanias speaks of the Tholos and the sacred well as entirely distinct. I have little doubt that it was the home or lair of the sacred serpents; in the vaults beneath they dwelt and bred in numbers, and from here they were sent to the numerous asklepieia all over the ancient world. The snakes would ascend to the floor of the tholos, where bloodless sacrifices were offered to them, and where the sick gave them the honey cakes, popana, and other sacrificial delicacies they were fond of.

[Dr. Caton then exhibited a lettered sketch of the Temple of Artemis Hekate.]

On the side of the hill Kynortion is seen the theatre, which was built in the fourth or fifth century B.C. by Polykleitos. Pausanias tells us it is the most interesting of the Greek theatres of his time. It certainly is one of the most beautiful of those existing to-day. The koilon or auditorium consisted of 55 rows of marble seats, capable of seating, it is said, 12,000 spectators. The chorus space is circular. The stage was 11 or 12 feet above the chorus space. The acoustics of this theatre are perfect; a loudish whisper on the stage is heard in every part of the auditorium. How many thousands of people have here listened to the plays of Æschylus, Sophocles, or Aristophanes!

Ceremonial Rites.

Vast numbers of the sick came here from all parts of the Greek world and beyond it. They lodged doubtless in the great hostel and in tents; those who were undergoing incubation of course slept in the abaton. At times—as, for example, at the festival of the Megale Asklepieia—thousands came who merely wanted a holiday, just as they came to the Isthmian or the Olympic Games. The patient on arrival underwent ceremonial purification, then paid his fee and arranged with one of the hieromnemones about his accommodation. He would walk in solemn procession to the temple with singing of sacred pæans, with music of lyre and double flute, and burning of incense. He would enter the Tholos and, if I am correct in my theory, offer bloodless sacrifices to the snakes, feeding them with honey, cakes, &c. He bathed in the sacred fountain, performed certain rites, and offered his sacrifices. Priests and physicians probably arranged his diet and treatment. At night he enters the abaton, bringing his bed clothing, and reposes on one of the couches. At nightfall the nakoros lights the lamps. The priest enters and recites the evening prayers to the god. Here is one that has come down to us in the writings of Ælius Aristides, a priest of Asklepios. "O ye Children of Apollo, who for many in past time have stilled the waves of sorrow and shown a light of safety for those who travel, be pleased to receive our prayer which ye inspire in sleep and vision. Order it rightly, we pray you, according to your loving kindness. Preserve from sickness, give the body such measure of health and strength as may enable it to obey the spirit within; that our days may be passed in vigour and in peace." Silence was then enjoined, the lights put out, and the priest commanded all to fall asleep and hope for guiding visions from the god. The serpents would probably visit the sick. Their visits were most welcome. These serpents were of course tame and harmless. The phrase in the inscriptions ἰασατο τῇ γλώσσα refers to their habit of licking an injured part.

The Records of Miraculous Cures.

The inscriptions speak of the god often appearing to the sick, of miraculous cures and of visions. Here follow examples. Hermodikos was paralysed. In his sleep the god told him to go out on to the hill side and bring in the largest stone he could find. He brought it in and it now lies before the abaton. The stone it is believed lies there to-day, but no man is strong enough to lift it. A man suffered from a malignant sore on the foot. While sleeping a serpent licked the foot with its tongue. The sore was at once healed. Hermon of Thosos was blind. His sight was restored by Asklepios, but Hermon did not send the fees he had promised on his return home, so the god again made him blind. He came back to the hieron with the fees and was again cured. A man had an abscess in the abdomen. In a dream the god ordered his servants to hold him while he (Asklepios) opened the abdomen, cleared out the abscess, and sewed up the wound. When the patient awoke a great pool of blood was on the floor of the abaton, and he was cured. A great number of such inscriptions were fixed on the wall of the abaton.

In later times superstition had a less share and science a greater one in the work of healing. We read of the priests using reasonable and useful methods of treatment: diet of a plain and simple kind, hot and cold baths, poultices, various medicaments such as hemlock juice, oxide of iron, hellebore, squills, lime-water, and drugs to allay pain, active gymnastic exercise, friction of the skin, and counter-irritation. Bleeding was practised, as shown in this vase-painting, and surgical methods were in use, for reliefs of surgical instruments exist.

A Cruel Superstition.

Doubtless many of the sick benefited greatly, but some incurable cases came for help, and here a difficulty arose. Neither birth nor death was permitted by the Greek religion to occur in the precinct of a god. If any sick man failed to improve and was seen by priests and attendants to be obviously dying, instead of being tenderly nursed and soothed, he was removed from his couch, conveyed to the nearest gate, expelled, and allowed to die on the hillside unhelped and untended. Asklepios had rejected him, and no minister of the god might defile himself by any dealings with death. Sometimes, also, a poor woman anticipating maternity (who was being treated for some ordinary ailment) was suddenly and mercilessly expelled at the moment when she needed help and comfort most. This cruel law prevailed at all times, but in the days of the Antonines a home for the dying and also a sort of maternity hospital was erected outside the precinct.

The Benefits Derived by the Patients.

Apart from this cruel superstition, the sick seem to have been treated with kindliness and humanity, and they in general were benefited. The whole atmosphere of the place was helpful. The beauty of the landscape, the supreme art displayed in the buildings, the sculpture and the paintings on every hand, the charm of the sacred grove, of the cultivated flowers, and of the music, the solemn services in the temples, the plays in the great theatre, the exercises of the palæstra and the stadium, were constant sources of interest. Numerous semicircular seats or exedrae were provided in which the invalid could rest, the more cultured occupying themselves in the study of books from the library. The study of the innumerable votive offerings and commemorative tablets, recording cures, must have excited a beneficial faith and hope. The priests were men of culture and refinement, anxious to help and comfort. Look at this portrait of Asklepios, portraying sympathy and sorrow for the suffering. I think that, notwithstanding the superstition that prevailed, we can read in this face sympathy with suffering and an earnest desire to help. For those especially who had been initiated at Eleusis, and for whom advanced age or incurable sickness gave little prospect of life, the calm, dignified forms of Demeter, Persephone, and Iakchos would suggest patience and the hope of a pure spiritual after-life free from all bodily infirmity, for the Greek and Roman heart, as Ruskin tells us, was full of the hope of immortality.

The pure air of the mountains by night and day, the plain simple diet, the rest and change, and the medical treatment, the beauty and charm of the place made Epidaurus intensely popular among the Greeks, and the Christian teachers in the early centuries of our era found it more difficult to displace Asklepios than any other of the gods of Greece or Rome from the beliefs of their converts. It is quite evident from the writings of Ælius Aristides, who himself was a priest of Asklepios, that many of the members of the medical profession in towns and cities discarded the supernatural side of the worship of the asklepieia; indeed, I doubt if Hippokrates himself had any faith in it. His writings show little evidence of such belief. Of course, in the towns there were physicians practising on a purely secular basis, some of them supported by a local rate named the ἰατρικὸν. Some of these physicians had been trained at the asklepieia, others had secular training as pupils with private practitioners. How far the public trusted in Amyno phiaraos, or Asklepios rather than in the skill the doctor it is difficult to say; probably the jority hold these beliefs strongly.

IE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD ON INFANT AND CHILD MORTALITY.

N urgently needed investigation, on a commen-rate scale, has been undertaken recently by the dical Department of the Local Government ard respecting the actual and comparative idence of mortality in early childhood in each ministrative area of England and Wales, with ecial reference to the causes responsible for the ulting loss or impairment of human life. This bject has hitherto been dealt with piecemeal, and erefore, from a national standpoint, inadequately, the reports of the local medical officers of health; t as the methods of calculation and tabulation ployed are frequently dissimilar, the results for mparative purposes are untrustworthy.

Infant Mortality in 1908.

Commenting on this matter in his first annual port as medical officer to the Board, Dr. Arthur wsholme emphasised the fact that in the year 08 one-fifth of the total deaths in this country re those of infants in their first year of life. He ferred to the unequal distribution of this mortality, which at that time varied from fewer than to more than 150 in each 1000 births, and further dicated broadly the measures locally necessary for e effectual safeguarding of infant life.

From the year 1905 onwards the Local Government Board has issued to medical officers of health rms of tables for use in their annual reports, owing the number and causes of all deaths curring in their districts in each of the first four eeks, and in each of the 11 subsequent months of e. Inasmuch as many of these forms have therto been imperfectly filled up, supplementary quiry has been necessary in order to complete the cal information required for the exhaustive vestigation of infant mortality throughout the untry.

Inauguration of National System of Reports on this Subject.

In the year 1910 the introductory volume of what ay rightly be styled a national system of reports infant and child mortality was issued by the oard's medical officer, the object being to secure a rd's-eye view of the incidence of mortality during rly childhood in each of the 54 administrative unties of England, as well as to determine in hich of these areas further administrative action as called for in order to control excessive ortality at that stage of life. The endeavour was ade, in the first place, to ascertain whether reduc on of mortality in infancy necessarily affects juriously the health of survivors at the later ges; secondly, to indicate the communities xperiencing continuously high infant mortality; nd lastly, to determine the relative importance of e factors responsible for abnormal waste of life in hildhood.

A second volume of these reports has recently een issued by Dr. Newsholme. This is essentially continuation of his introductory volume already eferred to. It gives similar but much fuller statistical information respecting 241 administrative areas (mostly towns) whose populations vary between 20,000 and 750,000. In the aggregate these areas contain nearly three-fifths of the total population of this country.

For the first time the medical officers of those urban sanitary districts, among whom the waste of life is notorious, will now be able to ascertain the exact relative position of their districts, not only as regards the mortality at ages 0–1 and 1–5 years, but also as regards the mortality from various causes at different stages of infant life. The report is divided thus: the first part enumerates the detailed facts concerning the incidence of infant and child mortality; the close inter-relation subsisting between defective sanitation, poverty, and intemperance on the one hand and excessive infant mortality on the other forms the subject of the second part; whilst the third part contains a preliminary account of existing efforts for child welfare in this country.

The chief object of this report is stated to be the formation of a framework of facts on which further inquiry may be made both by the Board's medical staff and by the local officers of health. The report is intended to bring into relief the experience of those districts that still suffer excessive infant mortality; to show the amount of presumably avoidable loss of life; to indicate the circumstances under which this loss occurs and the reforms necessary to secure a minimum loss of infant life. The exact causes of excessive infant mortality are obviously complex; nevertheless, comparison between towns of low and towns of high mortality leads irresistibly to the conclusion that very much of the excessive mortality in the less favoured towns can be remedied, if only the appropriate measures are adopted.

Urban and Rural Infantile Mortality.

It is familiar knowledge that the conditions prevailing in most urban communities are unfavourable to infant life. From the report of the Registrar-General for 1911 it may be gathered that the urban infant is almost as healthy at birth as is the rural. During the first month of life, when more than one-third of the total infant mortality occurs, the urban excess is only 8 per cent. During the first three months the urban is only 11·6 per cent. higher than the rural rate of death, while in the next three months it is 43 per cent., and in the second half of the first year it is 67 per cent. higher in the urban than in the rural districts. Speaking generally, the towns having respectively a high or a low rate of infant mortality have similarly a high or a low mortality in the next four years of life. In some towns the children suffer more severely at ages 1 to 5 than in their first year. The conclusion previously stated would therefore appear to be supported, that a high infant death-rate in a given locality generally implies a high death-rate in the next four years of life, while a similar association is found between low death-rates at both age periods. In a previous report this comparison was followed up to the age of 20 years, and from this it appears that, speaking generally, the communities suffering from excessive infant and child mortality continue to experience excessive mortality, though in a less degree, at the higher ages.

Reduction of Infant Mortality in Recent Years.

Prior to the year 1901 there is no indication of any substantial decline in English infant mortality. The steady improvement from 1901 onwards is one of the most striking features of recent statistical history. Some conception of the life-saving thus secured may be gathered from the following illustration. In the seven years 1906–12 the deaths of 736,682 infants occurred in England and Wales, equivalent to an average rate of 115 per 1000 births. Had the infant death-rate been 144 per 1000, as it had been in the seven years 1899–1905, there would have perished 922,454 infants in the years 1906–12. The improved conditions imply a saving of 185,772 lives during these seven years.

Defective Sanitation, Poverty, and Intemperance affecting Infant Mortality.

Among the domestic forms of insanitation overcrowding and lack of cleanliness are the most detrimental to child life, and these fall most heavily on the poor. This usually means for the bottle-fed child unsatisfactory arrangements for the storage of food and the consumption of contaminated or partially decomposed milk. Among the defects of sanitation for which the local authorities are responsible the most injurious to infants are unsatisfactory methods of scavenging, defective paving of streets and passages, and insufficiency of water-supply. Respecting the effect of poverty on infant mortality, Dr. Newsholme observes that when poverty involves malnutrition of either the expectant or the nursing mother it is only reasonable to assume that injury to the offspring will occur. Statistics are quoted from the Registrar-General's report for 1911 which show that infant mortality increases with declining social position. The rate does not exceed 77 per 1000 births among families of the upper and middle class, whilst it is equal to 148 per 1000 among textile operatives and 160 among miners. But that these excessive death-rates are not necessarily connected with poverty is proved by the fact that the rate among agricultural labourers is only 97 per 1000.

We cordially recommend the two volumes of the series already published, as practically indispensable to students of modern vital statistics. As such they will doubtless be regarded, and probably acquired for reference by those who are responsible for the guardianship of the public health; they may also be profitably studied by those who contemplate future enrolment in the public health department of our profession.

FOURTH ANNUAL MEETING OF CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

At the annual meeting of Clinical Congress, which was held in Chicago between Nov. 10th and 15th, 1913, the attendance numbered about 4000. As on previous occasions the holding of clinics was a special feature for which the wealth of material and the numerous hospitals and institutions of Chicago proved especially favourable.

The opening meeting took place on Monday evening, Nov. 10th, under the presidency of Dr. **George Emerson Brewer**, of New York. Dr. **E. W. Andrews**, chairman of the committee of arrangements, introduced Sir **Rickman Godlee**, President of the Royal College of Surgeons of England, who said that he had been impressed with the enormous amount of clinical material he had seen at all the hospitals visited, and had been much struck with the methodical manner in which instruction was carried on at these institutions.

After some congratulatory remarks by Dr. **Murray McLaren**, President of the Canadian Medical Association, and by Professor **Krönig** a Dr. **C. J. Gauss**, of Freiburg, Dr. **Brewer** gave

The Presidential Address: A Preliminary Rep on a Simple and Rapid Method of Pyloric Closure in Gastro-enterostomy.

Dr. Brewer referred to the defects, as point out by Tappliner, of all simple methods of pylo closure, and after reviewing the various metho suggested in the past, described his method. Tl consists in constriction of the pylorus by aluminium band, which is easily passed round t tube at this point and is quickly rolled with t fingers into an unyielding ring with sufficie compression to obliterate the lumen of the tul but not to compromise the vitality of the co pressed tissues. Experiments upon dogs, he sa had shown that this method of closure produced complete occlusion of the pylorus, as evidenced the fact that water would not pass the constrict point when the stomach was distended, and al that sections through the pylorus and aluminiu ring showed, on both gross and microscopic exan nation, not only that the pylorus was close but that the vitality of the tissues was n impaired. Another series of experiments show that the same method could be applied to t pyloric antrum, and, further, that the pylor which had been closed for some months, could ha its function restored by a second laparotomy a removal of the aluminium band. Although t method had not yet been used on the hum subject, Dr. Brewer held that the animal expe ments had been so conclusive that he believed it be the simplest and safest method yet proposed such cases.

Operation on the Gasserian Ganglion.

Dr. **Harvey Cushing**, of Boston, reported a ser of 156 cases with only two fatalities.

On Nov. 11th Dr. **John B. Deaver**, of Philadelph read a paper on

Gastric Hæmorrhage.

He said that operation might be indicated i gastric carcinoma when hæmorrhage chance to be an early symptom and there was stil hope of cure, or in advanced, or otherwise in operable, cancer when hæmorrhage was so profus and persistent as to shorten even the period of prognosis. In this case the measures to be adopted were excision, gastro-enterostomy, or jejunostomy, according to the pathological condition found a operation. But four most essential questions remained to be settled: 1. The recognition o suitable cases. 2. The time to operate. 3. The type of operation. 4. The proof of our position by mortality statistics.

Dr. **A. J. Oschner**, of Chicago, said that one must not look upon gastric hæmorrhage primarily as a surgical emergency. As a result of the surgical possibilities established during the past few decades a feeling had arisen that every serious condition must be attacked surgically. But this was justifiable only when the good judgment of the surgeon indicated that the patient was in such good condition that surgical treatment would offer th greatest possibility of cure. A careful and accura diagnosis, based upon a thorough knowledge of the history of such cases, was the foundation for th judgment.

Mr. **Herbert J. Paterson**, of London, read paper on

The Operation of Gastro-jejunostomy and the Principles that should Determine its Use.

He thought that there was little doubt that th ediate results of the posterior operation were :er than those of the anterior. Convalescence more smoothly and vomiting was less common. :eover, the anterior operation might necessitate ;hing out the stomach during the first few days. to remote results, he thought the advantage :ed with the anterior operation. Mr. Paterson oted the greater part of his paper to arguments wing that the operation of gastro-jejunostomy is hysiological one, notwithstanding Sir Berkeley ynihan's expressed belief that the "physiological lanation of gastro-jejunostomy is rot." The r practical lessons, he said, were: 1. That the e of gastro-jejunostomy employed is of less ortance than the manner in which it is per- med. 2. That if gastro-jejunostomy be a siological operation its use for the treatment of tric hæmorrhage is correct and explicable. That occlusion of the pylorus is an unnecessary aplicati [illegible] based on oneous [illegible] unostomy a physiological operation, then it is as efficient reatment for ulcers of the body of the stomach for ulcers near the pylorus; in other words, stro-jejunostomy is preferable to excision.

Dr. CARL BECK, of Chicago, said that Mr. erson's remarks in regard to the anterior and sterior operations, as well as the relative merits each, were important and suggestive. As to ether pyloric exclusion was practically useless, ther experimentation was needed.

On Nov. 12th Professor KRÖNIG read a paper on

The Radiotherapeutic Treatment of Benign and Malignant Tumours.

said that they had treated 254 cases of ncer with Roentgen rays and radium, 150 of em on purely therapeutic lines and without eration. Of these 150, 140 were treated with entgen rays and mesothorium; in 10 the entgen ray alone was used. Of 64 cases of rcinoma 43 cases had been treated for the pre- ntion of secondary growth almost exclusively th unfiltered Roentgen rays, while 21 cases were ated partly with filtered and partly with un- tered rays. The difference was striking. While out of the 43 cases died of carcinoma, they had en able to follow the subsequent history of 20 out the 21 cases and found that 60 per cent. of the currences occurred the first year after operation. ecurrent cancer had been treated with radioactive bstances. The 140 cases treated with Roentgen ys and mesothorium should be differentiated into o groups: 1. Those in which carcinoma had t spread beyond the primary focus into the ighbouring tissue, and in cancer of the cervix ere the carcinomatous growth had spread into e parametrium and glands, so that operation was t of the question. 2. Those carcinomas in which ditional metastases were already present. While had been found possible to produce remarkable trogressions and checking of the carcinomatous etastases by intense radiation of Roentgen rays d radium, in all cases the carcinoma had spread ter on. They could not say they had saved a ngle patient. In the second group the majority cases were at the present time impossible of re.

Dr. HOWARD A. KELLY, of Baltimore, said he had nployed radium in 188 cases of malignant growths. e had treated 40 cases of cancer of the lower part the uterus, where the disease was apt to spread pidly, and the cases were considered hopelessly lvanced and inoperable, and in three of these, after extensive operation, radium was used. In these three cases there had been no recurrence and health had been fully restored. He had also had four cases inoperable on account of the patients' general condition, where apparently a cure had resulted. Dr. Kelly thought that with an abundant supply of radium its use for superficial cancer would yield better results than surgery.

(To be continued.)

MEDICINE AND THE LAW.

Post-mortem Examinations and the Consent of Relatives.

A JUDGMENT delivered recently by Lord Anderson in the Court of Session, Scotland, is of interest to those called upon to make post-mortem examinations. In the case in question an action for damages (we use English phraseology rather than the less familiar Scottish legal terms) was brought by Mrs. Hughes, the widow of a deceased miner, against Dr. R. C. Robertson on the ground that he had made a post-mortem examination of her husband's body without authority, and that he had destroyed certain parts of the body instead of replacing them for burial with the rest of it. The action was successfully defended for Dr. Robertson by the Medical and Dental Defence Union of Scotland, Lord Anderson being of the opinion upon the evidence that the defendant had sufficient authority for what he did, and that he had in fact restored the heart to the body, although he had burnt portions of the intestines, a course justified by their decomposed condition. It is not necessary to recite the facts upon which this decision was based and which amply justified it, but it may be mentioned that there had been, or was alleged to have been, an accident, injuring the abdomen of the deceased, that after a day or two he had gone to the infirmary at Kilmarnock, that an exploratory examination had been made by the defendant who is one of the surgeons of that institution, that the patient's condition had proved to be very serious, and that two days later he died. To this it may be added that there was evidence that a suggestion was at some time made by the deceased both to Dr. Robertson and to Dr. A. Revie, the medical officer of the colliery, that the deceased had made an indiscreet meal of whelks and chip potatoes, and that the widow and dependents afterwards made a successful claim before the sheriff substitute under the Workmen's Compensation Act. It will readily be understood that in these circumstances the probability of a post-mortem examination being required by the relatives was taken into consideration, together with direct evidence as to some of them (but not the widow) having asked Dr. Robertson to make one. It is of more general interest, however, to note the points of law referred to by Lord Anderson, not because they have any element of novelty, but because his lordship's judgment shows that principles established in such matters are not likely to be departed from. With regard to this Lord Anderson said emphatically, "It is quite well settled by the cases of Pollock *v.* Workman, 2 Fraser, and Conway *v.* Dalziel, 3 Fraser, that an unauthorised post-mortem examination is a legal wrong." This, he explained, was on the principle that distress might be caused to relatives by the dissection of the body of one who in life was dear to them, and he referred to the damages in such a case as a solatium for injured feelings. As to the alleged abstraction and detention of parts of the body by those performing the examination Lord Anderson said: "This may, and perhaps does, *per se* found a claim for damages; but it is difficult for me to appreciate the attitude of mind which resents such an action and at the same time condones the dissection of the body." A point not of law, but illustrating the condition of fact, arising in such a case may here be noted. It was put forward that the relatives who asked for a post-mortem examination assented only to such an investigation as would not necessitate any dissection. Lord Anderson came to the obvious and reasonable conclusion that the persons who dealt with the matter, if they wanted evidence to establish the fact of an accident, required and intended to ask for such an examination as would be necessary for that purpose, which, of course, would involve opening the body. Among the defences formally raised was one to the effect that the deceased was being treated in a public charitable institution, that the defendant was acting partly, at any rate, in an official capacity as surgeon to the Kilmarnock Infirmary, and that as such he was obliged to give a certificate of the cause of death. Lord Anderson said as to this: "I do not think the court can too emphatically lay down, nor can medical men too distinctly and constantly keep in mind, that a medical practitioner in circumstances like the present has no right apart from authority to dissect a dead body." The question whether the authority for this purpose should be in writing was referred to. As to this the learned judge observed that it was not in his opinion essential. Authority could be proved by other evidence, but he called attention to the advantages of a written authority in such a matter, and intimated that medical men would be taking a useful hint if as a result of the case before him they insisted upon it. The deduction, in short, to be made from a case of an unusual kind arising out of circumstances that are of not common occurrence is that a medical man about to hold a post-mortem examination at the request, or at the supposed request, of a private individual should have authority in writing for doing so, stating distinctly the nature of the examination; and should take care that the person signing that authority is so qualified by relationship or other circumstances that no one will be able to come forward and object as having a better right to be consulted. On the majority of occasions, however, in England at any rate, when post-mortem examinations are held, they are made by the order of a coroner or under some other authority, which fully protects the practitioner or pathologist, and the post-mortem examination made on behalf of private individuals is of comparatively rare occurrence.

Back-to-Back Houses and the Local Government Board.

The Chesterfield rural district council recently had the satisfaction of being upheld in its views with regard to a number of insanitary dwelling-houses by an inspector of the Local Government Board, who held an inquiry upon an appeal by the landlord. The houses in question were situated in Eckington, being back-to-back houses, and the requirements of the council were conversion of privies into water-closets, paving of backyards, general repairs, and the making of each pair of front and back houses into one house. The owner of some of the houses complained of insisted with regard to the last requirement that it would suffice if he put in ventilators instead of effecting the conversion demanded. Another landlord expressed willingness to comply, but awaited the result of the appeal of the first mentioned before doing so. A closing order was made by the rural district council under the Housing and Town Planning Act, 1909, and an appeal to the Local Government Board followed as stated. The inspector, upon the evidence of Dr. H. Peck, medical officer of health to the council, and other witnesses, and after inspecting the premises, confirmed the closing order made by the rural district council. Incidentally he declined to accept the contention put forward that the alleged existence of 16,000 back-to-back houses in Sheffield and similar conditions prevalent elsewhere justified their retention at Eckington. Dr. Peck, who is entitled to congratulation on his success in the matter, was cross-examined upon this point, and defined the relative progress of sanitation in Eckington and Sheffield neatly by saying, "They get what they can; we get as much as we can." It was pointed out that insanitary houses attracted and collected tenants of an undesirable character. This the inspector ruled to be irrelevant to the purposes of his inquiry.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

City of Birmingham.—The city of Birmingham is to be heartily congratulated on possessing a medical officer of the calibre of Dr. George A. Auden. The 1912 report shows the development of a system of inspection and treatment of a fine type in which an attempt is made to correlate all the agencies which have to do with child welfare and to deal with all the problems of special groups of defective children which arise in school work. Birmingham has recently taken within its borders certain outlying districts, and the centralisation of work thus involved has set free premises used as subcentres for inspection and treatment work in addition to the central office. And it is proposed to make the assistant school medical officers, with their headquarters at these subcentres, largely autonomous, with due regard to the necessities of central administrative control. The institution of five dental clinics is recorded, the central and suboffices are equipped for refraction work, an ophthalmic surgeon has been appointed, and an arrangement made for the supply of spectacles at cheap rates. It is proposed to build a central school clinic, so freeing the offices for clerical work, and in connexion with operations for tonsils and adenoids beds are to be provided and patients kept in for 24 hours. When the scheme is fully in operation Birmingham will be equipped for the amelioration of all those defects in school children, for which there is inadequate provision elsewhere, with the exception of deformities needing massage and special exercises. The report states that with the progress of the work the school medical department "is assuming more and more the character of a Central Bureau of Child Welfare." This admirable state of affairs is no doubt made possible by the broadly statesmanlike interpretation of the duties of the school medical officer, which is taken by Dr. Auden and the Birmingham Education Committee. This is best indicated by mentioning some points showing the range of the work. In the report is the account of 11 "parents' evenings," at which parents were talked to by Dr. An[illegible] Anderson; a table (novel in school reports) of deaths of children of school age is given, and is valuable as showing the causes of death most fatal. Out of 5[illegible] deaths 27·8 per cent. were from infectious diseases, 12 per cent. from diseases of the heart and pericardium, and over 9 per cent. each from pneumonia, accidents, and tuberculosis (including phthisis but excluding meningitis), and disea-of brain and meninges account for 7·8 per cent. Diseases of the lungs (other than phthisis) caused death in 2·4 per cent. A note by Dr. Hill emphasises the necessity (in order to get defective children treated) of effecting "some change ...... whereby the difficulties of parents are reduced." 1998 children suffering from illness have been notified to the medical officer by medical practitioners, and it is becoming possible in consequence to estimate the incidence of the various forms of chronic disease amongst school children. S

and the quadrangle

is recommended.

investigation into ventilation arranged under six typical methods, including the plenum system. Children in the Remand Home and at an industrial school are examined by the medical officer, who gives, as the result of an examination into the mental capacity of 20 boys at the latter institution, a report showing six as definitely mentally defective, one epileptic, and one borderland case. Emphasis is laid on the need for medical examination before committal. Ninety-six children on an epileptic register are examined every six months, and of these 41 are definitely improving. In 62 per cent. of the cases in which age at onset was noticed this was before five years. The open-air school, the physically defective, and the blind and deaf classes are reported on, and there are some especially valuable pages dealing with mental deficiency, not least of which is the report of personal observations made by an infants' mistress. The report from Birmingham shows what can be made of medical inspection and treatment in the hands of those who see the problems involved in a big way. It is earnestly to be hoped that some of the less advanced educational authorities will follow Birmingham's excellent example.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns, with an aggregate population estimated at 17,852,766 persons at the middle of 1913, 5565 births and 5070 deaths were registered during the week ended Saturday, Dec. 27th, 1913. The annual rate of mortality in these towns, which had been 13·2, 14·5, and 14·6 per 1000 in the three preceding weeks, further rose to 14·8 per 1000 in the week under notice. During the 13 weeks of the December quarter the mean annual death-rate in these towns averaged 13·9, against 13·7 per 1000 in London during the same period. Among the

he week ranged from 5·5 in

n Enfield, 9·6 in Leyton and

d in Gateshead, to 21·2 in

38 from scarlet

from small-pox

diseases in the

and coincided

ears of age) attributed to diarrhœa

been 101, 94, and 96 in the three

to 89; of this number 29 were

the

luded 10 in

, Leeds, and

Sunderland.

had been 45,

declined to

ondon, and 3

The deaths referred to scarlet fever, which had been 37, 23, and 38 in the three preceding weeks, were again 38 in the week under notice, and included 7 in Birmingham, 6 in London, and 3 each in Liverpool, Manchester, and Sheffield. The fatal cases of enteric fever, which had been 14, 26, and 20 in the three preceding weeks, were again 20 during the week, of which number 4 were recorded in London, 2 in Portsmouth, and 2 in Hull.

The number of scarlet fever patients in the Metropolitan Asylums and the London Fever Hospitals, which had been 4143, 4137, and 4048 at the end of the three preceding weeks, had further declined to 3946 on Dec. 27th; 326 new cases were admitted during the week, against 524, 552, and 458 in the three preceding weeks. These hospitals also contained on the date mentioned 1113 cases of diphtheria, 181 of whooping-cough, 60 of measles, and 55 of enteric fever, but not one of small-pox. The 1215 deaths from all causes in London were 63 fewer than the number in the previous week, and were equal to an annual death-rate of 14·0 per 1000. The deaths referred to diseases of the respiratory system, which had been 227, 291, and 307 in the three preceding weeks, declined to 280, and were 6 below the number recorded in

in the 96 towns, 187 were

iolence, and 398 were the subject of coroners' inquests. The causes of 52, or 1·0 per

During the 14 weeks included in the December quarter of

Burnley, and 32·1 in Bath.

The 6375 deaths from all causes were 1305 in excess of the number in the previous week, and included 346 which were referred to the principal epidemic diseases, against 341 and 348 in the two preceding weeks. Of these 346 deaths, 80 resulted from infantile diarrhœal diseases, 76 from measles, 76 from whooping-cough, 64 from diphtheria, 34 from scarlet fever, and 16 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·0 per 1000, and was equal to the rate recorded in the two preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 94, 96, and 89 in the three preceding weeks, further declined to 80 last week, and included 26 in London, 6 in Sheffield, 4 in Manchester, 3 in Tynemouth, and 3 in Swansea. The deaths referred to measles, which had been 54, 62, and 80 in the three preceding weeks, slightly fell to 76 last week, and caused the highest annual death-rates of 1·6 in Rhondda, 1·9 in Middlesbrough, 2·0 in Barnsley, 2·1 in Warrington, and 4·8 in Burnley. The fatal cases of whooping-cough, which had been 57, 56, and 61 in the three preceding weeks, further rose to 76 last week; of this number 11 occurred in London, 9 in Birmingham, 8 in Manchester, 7 in Sheffield, 6 in Liverpool, and 4 in West Ham. The deaths attributed to diphtheria, which had been 70, 69, and 60 in the three preceding weeks, rose to 64 last week, and included 11 in London, 7 in Birmingham, 3 in Leeds, and 3 in Willesden. The deaths referred to scarlet fever, which had been 23, 38, and 38 in the three preceding weeks, were 34 last week, of which number 5 were

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were equal to an

The deaths referred

, which had been 291,

weeks, rose to 423

last week, and were 137 above the number recorded in the corresponding week of last year.

Of the 6375 deaths from all causes in the 96 towns, 257 were attributed to different forms of violence, and 660 were the subject of coroners' inquests. The causes of 66, or 1·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, and in 63 other smaller towns. Of the 66 uncertified causes of death, 14 were registered in Birmingham, 11 in Liverpool, 4 in West Hartlepool, and 3 each in London, St. Helens, Preston, and Sheffield.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of 1913, 1025 births and 777 deaths were registered during the week ended Saturday, Dec. 27th, 1913. The annual rate of mortality in these towns, which had been 15·6, 17·0, and 17·3 per 1000 in the three preceding weeks, further rose to 17·9 per 1000 in the week under notice. During the 13 weeks of the December quarter the mean annual death-rate in these Scotch towns averaged 15·6, against 13·9 per 1000 in the 96 large English towns during the same period. Among the several towns the death-rate for the week ranged from 13·0 in Kirkcaldy, 13·4 in Perth, and 14·9 in Hamilton, to 20·5 in Falkirk, 24·8 in Greenock, and 28·9 in Coatbridge.

The 777 deaths from all causes were 26 in excess of the number in the previous week, and included 78 which were referred to the principal epidemic diseases, against 86 and 79 in the two preceding weeks. Of these 78 deaths, 37 resulted from measles, 11 from scarlet fever, 11 from whooping-cough, 10 from diphtheria, and 9 from infantile diarrhœal diseases, but not one from enteric fever or from small-pox. These 78 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8, against 1·0 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 40, 36, and 39 in the three preceding weeks, fell to 37 in the week under notice, of which number 14 occurred in Glasgow, 8 in Edinburgh, 7 in Greenock, and 4 in Leith. The deaths referred to scarlet fever, which had been 8, 12, and 11 in the three preceding weeks, were again 11 during the week, and included 4 in Glasgow and 4 in Edinburgh. The fatal cases of whooping-cough, which had been 5, 6, and 3 in the three preceding weeks, rose to 11 in the week under review, of which 5 occurred in Glasgow and 3 in Paisley. The deaths attributed to diphtheria, which had been 12, 17, and 12 in the three preceding weeks, declined to 10, and comprised 4 in Glasgow, 3 in Aberdeen, 2 in Edinburgh, and 1 in Ayr. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 14, 13, and 14 in the three preceding weeks, fell to 9, of which 3 were recorded in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 123, 157, and 139 in the three preceding weeks, rose to 167 in the week under notice; 31 deaths were attributed to different forms of violence, against 30 and 32 in the two preceding weeks.

In the 16 largest Scotch towns 1138 births and 881 deaths were registered during the week ended Saturday, Jan. 3rd. The annual rate of mortality in these towns, which had increased from 15·6 to 17·9 per 1000 in the four preceding weeks, further rose to 20·3 per 1000 in the week under notice. During the 14 weeks included in the December quarter of last year the mean annual death-rate in these Scotch towns averaged 15·9, or 1·7 per 1000 above the corresponding rate recorded in the 96 large English towns. Among the several towns the death-rate last week ranged from 7·3 in Falkirk, 10·4 in Perth, and 14·0 in Motherwell to 21·7 in Glasgow, 22·3 in Dundee, and 28·9 in Greenock.

The 881 deaths from all causes were 104 in excess of the number in the previous week, and included 85 which were referred to the principal epidemic diseases, against 79 and 78 in the two preceding weeks. Of these 85 deaths, 50 resulted from measles, 12 from diphtheria, 11 from infantile diarrhœal diseases, 7 from scarlet fever, and 5 from whooping-cough, but not one from enteric fever or from small-pox. These 85 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·0, against 1·0 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 36, 39, and 37 in the three preceding weeks, rose to 50 last week; of this number 24 occurred in Glasgow, 10 in Edinburgh, 7 in Greenock, 3 in Paisley, and 3 in Leith. The deaths referred to diphtheria, which had been 17, 12, and 10 in the three preceding weeks, slightly rose to 12 last week, and included 4 in Glasgow, 3 in Aberdeen, and 2 in Edinburgh. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 13, 14, and 9 in the three preceding weeks, rose to 11 last week, of which 4 were recorded in Aberdeen and 2 in Dundee. The deaths attributed to scarlet fever, which had been 12, 11, and 11 in the three preceding weeks, further declined to 7 last week, and included 3 in Glasgow and 2 in Motherwell. The deaths referred to whooping-cough, which had been 6, 3, and 11 in the three preceding weeks, fell to 5 last week, and comprised 2 in Glasgow, 2 in Greenock, and 1 in Coatbridge.

The deaths referred to diseases of the respiratory system, which had been 157, 139, and 167 in the three preceding weeks, further rose to 184 in the week under notice; 30 deaths were attributed to various forms of violence, against 32 and 31 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of 1913, 350 births and 366 deaths were registered during the week ended Saturday, Dec. 27th, 1913. The annual rate of mortality in these towns, which had been 16·0, 17·7, and 18·9 per 1000 in the three preceding weeks, declined to 15·9 per 1000 in the week under notice. During the 13 weeks of the December quarter the mean annual death-rate in these towns averaged 17·2 per 1000; in the 96 large English towns the corresponding rate did not exceed 13·9, while in the 16 Scotch towns it was equal to 15·6 per 1000. The annual death-rate for the week was equal to 17·1 in Dublin (against 14·0 in London and 17·3 in Glasgow), 19·8 in Belfast, 10·9 in Cork, 11·4 in Londonderry, 13·5 in Limerick, and 11·4 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 9·2 per 1000.

The 366 deaths from all causes were 69 fewer than the number in the previous week, and included 31 which were referred to the principal epidemic [illegible] of the three preceding weeks. Of [illegible] from whooping-cough, 7 from scar [illegible] diarrhœal diseases, 3 from measles, 2 from enteric fever, and 2 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·3 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it reached 1·8 per 1000. The deaths attributed to whooping-cough, which had been 4, 6, and 6 in the three preceding weeks, rose to 10, of which 7 occurred in Belfast. The deaths referred to scarlet fever, which had been 13, 8, and 8 in the three preceding weeks, were 7, and comprised 6 in Belfast and 1 in Newry. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 13, 6, and 11 in the three preceding weeks, declined to 7, of which 5 were recorded in Dublin. The 3 deaths attributed to measles were equal to the average in the earlier weeks of the quarter, and occurred in Dublin, Belfast, and Armagh respectively. The 2 fatal cases of diphtheria were recorded in Dublin, and those of enteric fever in Limerick and Galway respectively.

The deaths referred to diseases of the respiratory system, which had been 73, 92, and 80 in the three preceding weeks, rose to 89 in the week under notice. Of the 366 deaths from all causes, 92, or 25 per cent., occurred in public institutions, and 5 resulted from various forms of violence. The causes of 11, or 3·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 1·0 per cent.

In the 27 town districts of Ireland 682 births and 593 deaths were registered during the week ended Saturday, Jan. 3rd. The annual rate of mortality in these towns, which had been 17·7, 18·9, and 15·9 per 1000 in the three preceding weeks, rose to 25·7 per 1000 in the week under notice. During the 14 weeks included in the December quarter of last year the mean annual death-rate in these towns averaged 17·8 per 1000; in the 96 large English towns the corresponding rate did not exceed 14·2, while in the 16 Scotch towns it was equal to 15·9 per 1000. The annual death-rate last week was equal to 30·4 in Dublin (against 18·6 in London and 21·7 in Glasgow), 25·4 in Belfast, 28·6 in Cork, 21·6 in Londonderry, 12·2 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate was equal to 20·5 per 1000.

The 593 deaths from all causes were 227 in excess of the number in the previous week, and included 32 which were referred to the principal epidemic diseases, against 36 and 31 in the two preceding weeks. Of these 32 deaths, 7 resulted from whooping-cough, 7 from measles, 7 from diphtheria, 6 from infantile diarrhœal diseases, 3 from scarlet fever, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·4 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it reached 2·0 per 1000. The deaths attributed to whooping-cough, which had been 6, 6, and 10 in the three preceding weeks, declined to 7 last week, and comprised 6 in Belfast and 1 in Newtownards. The 7 deaths referred to measles, of which 5 occurred in Armagh and 2 in Dublin, were 4 above the average in the earlier weeks of last quarter. The fatal cases of diphtheria, which had been 8, 8, and 2 in the three preceding weeks, rose to 7 last week, and comprised 4 in Dublin, 2 in Belfast, and 1 in Londonderry.

he deaths of infants (under 2 years) attributed to diarrhœa id enteritis, which had been 6, 11, and 7 in the three preceding weeks, were 6 last week, of which 3 were registered in ublin. The deaths referred to scarlet fever, which had eclined from 13 to 7 in the four preceding weeks, further ll to 3 last week, and were all recorded in Belfast. The fatal cases of enteric fever, which were equal to the weekly erage during last quarter, were recorded in Dublin and elfast respectively.

The deaths referred to diseas [illegible] hich had been 92, 80, and 89 [illegible] rther rose to 162 in the we[illegible] eaths from all causes, 173, or 29 per cent., occurred in ublic institutions, and 17 resulted from various forms of iolence. The causes of 26, or 4 4 per cent, of the total eaths were not certified either by a registered medical ractitioner or by a coroner after inquest; in the 96 large nglish towns the proportion of uncertified causes of death id not exceed 1 0 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Surgeons: *A. Simpson to the Isgard, temporary*; D. P. H. earson to the *Antrim*; D. G. Arthur to the *Halcyon*, [illegible] in to the *Doris*, and for [illegible] o the *Robin*, additional, [illegible] to the *Clio*, additional, [illegible] ayers to the *Britomart*, dditional, and on recommissioning; A. E. Malone to the *histle*, additional, and on recommissioning; G. F. B. Page the *Widgeon*, additional, and on recommissioning; A. J. *ozer to the Woodlark, additional, and on recommissioning*; [illegible] ecommissioning; and G. A. Bradshaw to the *Doris*, for edical charge on voyage home.

Fleet-Surgeon Edmund Corcoran has been placed on the etired List, with permission to assume the rank of Deputy urgeon General.

ARMY MEDICAL SERVICE

Surgeon General Owen E. P. Lloyd, V.C, C B., is placed n retired pay (dated Jan 1st, 1914)

Colonel Walter G. A. Bedford, C M.G, to be Surgeon-eneral, vice O. E. P. Lloyd, V C., C B. (dated Jan 1st, 1914)

Lieutenant Colonel Cecil Birt, from the Royal Army ledical Corps, to be Colonel, vice W. G. A Bedford, C.M G. lated Jan. 1st, 1914).

Colonel Thomas J. R. Lucas, C B., on completion of four ears' service in his rank, retires on retired pay (dated an. 2nd, 1914)

Brevet Colonel Robert S F. Henderson, K H P, from the loyal Army Medical Corps, to be Colonel, vice T. J. R Lucas, B. [illegible]

Ma [illegible] o be a epu [illegible] epart nent [illegible] War)ffice [illegible]

ROYAL ARMY MEDICAL CORPS.

[illegible] s on [illegible] to be [illegible] vice [illegible] 1914) [illegible] lated [illegible] an 3rd, 1914). [illegible] Southern Army in ndia.

Colonel R Kirkpatrick, C M.G, has been appoint[illegible] ssistant Director of Medical Services to the Sialkot a[illegible] bbottabad Brigades

[illegible]

[illegible] Karachi for Sout[illegible] troops. Lieutenant Colonel T. Du B. Whaite has been placed under orders to embark for a tour of duty in India, and on arrival will be appointed to hold charge of the Military Hospital at Lahore Cantonment, vice Lieutenant Colonel J. Fallon.

[illegible] as [illegible] Le [illegible] appointed to the Irish Command for duty in the Cork District. Major H W H O'Reilly has relinquished medical charge of effective troops at Colchester and embarked for a tour of service in India Major P. J. Probyn, D S O., has been transferred from the Military Hospital at Sheffield to Leeds. Major W. C. [illegible] of the Military Hos[illegible] Major E. W. Slayto[illegible] ment, tour expired. Major C. B Martin has been selected for appointment as Surgeon to the Royal Military Hospital [illegible]

[illegible] Major F. W. Begbie has been selected for advancement to [illegible] T. N. Thompson, D.S.O., [illegible] arrived home for duty [illegible] St C. Thom has been appointed to the Scottish Command for a tour of duty. Major J. H. W. Houghton has been selected for appointment as Specialist in Advanced Operative Surgery to the Military Hospital at Meerut Cantonment.

Captain D. Ahern has been placed under orders to join the Irish Command on Jan 17th and on arrival will be appointed to the Dublin District for duty. Captain H. V. Bagshawe has been transferred from the Military Hospital at Alexandria to Cairo Captain P. Power has been appointed to the [illegible] joined at Bradford Captain E. B. Booth has been placed under orders for transfer from the Military Hospital at Dundalk and embark for a tour of service in the Sierra Leone Protectorate Captain H. St. M. Carter has been selected for appointment as Specialist in Operative Surgery to the Cambridge Military Hospital at Aldershot. Captain D G Carmichael has been transferred from Khanspur, Murree Hills District, to the Military Hospital at Sialkot Cantonment. Captain M. C. Wetherell has taken up duty at the Military Hospital, Fethard, on transfer from Kildare. Captain C. P. O'Brien-Butler has arrived home for duty from India, by exchange. Captain A M. Benett has been appointed to the Scottish Command. Captain W Benson has been selected for appointment as Company Officer at the Depôt, Royal [illegible] the Ninth (Secunderabad) Division Captain R. G. S Gregg, specialist in operative surgery at the Military Hospital, Quetta Cantonment, has been placed under orders to relieve Major H. K Palmer at Aden, tour expired Captain H. T. [illegible] transferred from the Military Hospital at Preston to [illegible] has been selected for [illegible] l Science and Radio-[illegible]

INDIAN MEDICAL SERVICE.

[illegible] A. M. Crofts, C.I.E., has taken up duty [illegible] the Second (Rawal [illegible] India The Honour-[illegible], C.S.I., has been [illegible] ee months. [illegible] d has been selected [illegible] Director of Medical

Services to the Sirhind and Jullundur Brigades, vice Lieutenant-Colonel R. B. Roe. The services of Lieutenant-Colonel F. Jennings, superintendent of the Central Prison at Agra, on return from leave of absence, have been replaced at the disposal of the Home Department of the Government of India. Lieutenant-Colonel P. B. Haig has arrived home on leave of absence from India. The services of Lieutenant-Colonel H. W. Pilgrim have been replaced at the disposal of H.E. the Commander-in-Chief in India by the Home Department.

Major J. E. Clements has been appointed Superintendent of Central Prisons, vice Lieutenant-Colonel W. H. Gray, retired. Major H. C. Buckley, on return to duty from leave of absence, has been appointed to officiate as Civil Surgeon at Bulandshahr. Major E. J. Morgan, civil surgeon at Aligarh, has been granted furlough, combined with study leave of absence, home from India for one year.

Captain H. C. Keates, officiating civil surgeon at Campbellpore, has been appointed Plague Medical Officer at Lahore. Captain V. N. Whitamore has arrived home on leave of absence from India. Captain J. Taylor has been appointed to officiate as Assistant Director of the Bombay Bacteriological Laboratory during the absence on leave of Captain W. D. H. Stevenson. Captain P. M. Rennie has taken up duty as Health Officer and Civil Surgeon of the notified area at Delhi during the absence on leave of Lieutenant-Colonel W. H. Ogilvie. Captain G. Holroyd has taken up duty as Superintendent of the Central Jail at Dacca, in succession to Captain F. H. Salisbury. Captain H. P. Cook has been appointed on plague prevention duty to the Fyzabad district. Captain J. A. Cruickshank has been appointed to the Bacteriological Department. The services of Captain S. J. Bhathena have been replaced at the disposal of H.E. the Commander-in-Chief in India by the Home Department. Captain J. Anderson has been appointed Civil Surgeon at Miranshah. Captain T. F. Owens, chemical examiner and bacteriologist to the Government of Burma, has been granted privilege leave of absence.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Cadet Staff-Sergeant Owen Hairsine, from the University of London Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated Nov. 29th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Major George St. Clair Thom, Royal Army Medical Corps, to be Deputy Assistant Director of Medical Services of a Territorial Division (dated Dec. 13th, 1913).

3rd Southern General Hospital, Royal Army Medical Corps: Captain William E. Robinson ceases to hold a commission in the Territorial Force (dated Jan. 1st, 1914).

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Supernumerary Captain George Ashton ceases to serve with the No. 18 Field Ambulance, Royal Army Medical Corps, Special Reserve, and is restored to the establishment (dated Jan. 7th, 1914).

3rd North Midland Field Ambulance, Royal Army Medical Corps: William Boyd to be Lieutenant (to be supernumerary) (dated Nov. 27th, 1913).

3rd London General Hospital, Royal Army Medical Corps: Captain Frederick R. Miller to be Major (dated Jan. 7th, 1914).

Highland Clearing Hospital, Royal Army Medical Corps: Alexander Gibbon to be Quartermaster, with the honorary rank of Lieutenant (dated Jan. 7th, 1914).

West Lancashire Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colonel William Baron Cockill, from the 3rd West Lancashire Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel (dated Dec. 1st, 1913).

South Midland Clearing Hospital, Royal Army Medical Corps: Major Seymour Gilbert Barling, from the 1st Southern General Hospital, Royal Army Medical Corps, to be Lieutenant-Colonel (dated Jan. 7th, 1914).

Sanitary Service: Major Harold M. Richards resigns his commission (dated Jan. 7th, 1914).

Attached to Units other than Medical Units.—To be Captains: Lieutenant Andrew G. T. Hanks (dated Oct. 6th, 1913); and Lieutenant William C. F. Harland (dated Oct. 6th, 1913).

Captain George McKellar resigns his commission (dated Jan. 7th, 1914).

For Attachment to Units other than Medical Units.—To be Lieutenants: John Earnsclеuch Brydon (dated Jan. 3rd, 1914); George Paul Anning (dated Nov. 22nd, 1913); and William Douglas Frew (dated Dec. 1st, 1913).

Supernumerary for service with the Officers Training Corps.—The following Lieutenants serving with the Royal College of Surgeons in Ireland Contingent, Senior Division, Officers Training Corps, resign their commissions (dated Jan. 7th, 1914):—Thomas Thomson and Henry Stokes.

TERRITORIAL FORCE RESERVE.

Royal Army Medical Corps.

Captain Charles Stuart Brebner, from the 1st London (City of London) Field Ambulance, Royal Army Medical Corps, to be Captain (dated Jan. 1st, 1914).

Surgeon-General William B. Bannerman, C.S.I., Indian Medical Service, has been appointed an Honorary Physician to the King in the place of Surgeon-Colonel J. Richardson, deceased.

ROYAL MEDICAL BENEVOLENT FUND.—At the December meeting of the committee 32 cases were considered and grants amounting to £284 made to 25 of the applicants. Appended is an abstract of the cases relieved:—

Widow, aged 58, of L.R.C.P. Edin. Husband died 18 years ago after a long illness, during which he was supported by the applicant. Is at present acting as nurse to a helpless invalid, but is obliged to give up because not strong enough for the duties. Voted £10.—Widow, aged 35, of M.D. No income; incapacitated by phthisis and requires help in order to go to a sanatorium; three children aged 12 to 5. Relieved twice, £10. Voted £10.—Widow, aged 46, of M.D. No income, and suffers from a spinal complaint by which she is quite incapacitated; two children, aged 6 and 5. Is endeavouring to obtain admission to a hospital for incurables. Relieved once, £5. Voted £18.—Daughter, aged 62, of late M.B. Lond. Only income £14 10s. a year, and has been disposing of her furniture to meet unavoidable expenses. Voted £12.—Daughter, aged 49, of late L.R.C.P., M.R.C.S. Is much run down after nursing her mother (recently deceased) through a long illness and is ordered a short rest before trying to find a post as companion. Voted £5.—Daughter, aged 63, of late M.R.C.S. Used to have a small school in a good London suburb, but was obliged to give it up owing to ill health and is now totally incapacitated. No income. Voted £12.—Daughter, aged 62, of late M.R.C.S. Has a small annuity, but finds when she has paid for a room and some attendance, which is necessary because she is nearly blind, there is not sufficient for other unavoidable expenses. Voted £5.—Widow, aged 62, of L.F.P.S. Glasg. No income and no relations or friends able to assist. Voted £12.—Daughter, aged 46, of late M.R.C.S. Has been an invalid for several [illegible] discharge of her duties as a nurse, [illegible] Has a pension from the British [illegible] be elected to one from another institution, but requires help for maintenance and necessary attention meanwhile. Voted £12.—Daughter, aged 56, of late L.R.C.P. Has a pension from a charitable society, but finds it insufficient for the bare necessities of life and is unable to supplement it by suitable work. Relieved six times, £29. Voted £12.—Daughter, aged 58, of late M.D. Edin. Used to support herself as a governess, but for some years past has been unable to obtain a permanent post in that capacity, and at present is dependent on precarious earnings from needlework. Relieved four times, £27. Voted £12.—Widow, aged 59, of L.R.C.P. & S. Edin. After husband's death endeavoured to establish a small boarding house, but was compelled to give up owing to failing health and is now practically incapacitated. No income, and dependent on a daughter who is a lady help. Relieved once, £10. Voted £10.—Widow, aged 85, of M.R.C.S. Only income an annuity of £10 and the Old Age Pension. Children unable to help. Relieved three times, £18. Voted £10.—Daughter, aged 66, of late M.D. Edin. Used to be a governess, but is now unable to earn for herself because obliged to attend to two invalid sisters. Only income £10 a year given by an old friend. Relieved eight times, £96. Voted £12.—Widow, aged 67, of L.R.C.P. Edin. Supplements an annuity of £20 from a charitable society by addressing envelopes, &c. Relieved 16 times, £151. Voted £10.—Daughter, aged 51, of late M.D. Edin. No income and has been a chronic invalid for some years. Voted £10.—Widow, aged 54, of L.S.A. Quite unprovided for at husband's death several years ago and supports herself by letting rooms and by needlework. Two daughters, both teachers, but barely self-supporting. Relieved eight times, £88. Voted £12.—Daughter, aged 59, of late M.D. Lond. Used to give music lessons, but is no longer able to obtain pupils and is dependent on a sister whose income is very small. Eyesight failing and suffers from chronic rheumatism. Relieved 30 times, £230. Voted £12.—Widow, aged 52, of M.R.C.S. Since husband's death has been endeavouring to establish a boarding-house in the town where he practised, and now finds that with the help from this fund she can just meet her expenses. Voted £12.—Daughter, aged 62, of late M.R.C.S. Endeavours to support herself by letting lodgings and keeping fowls; health very feeble. Relieved once, £12. Voted £12.—Widow, aged 68, of L.R.C.P. Edin. Has a small house which is let at a rent of £24, but the lease expires in a few years' time and repairs have to be frequently done. Relieved 14 times, £[illegible]. Voted £12.—Widow, aged 57, of L.R.C.P. Irel. No income; health indifferent; is at present a caretaker, but receives no salary. Relieved six times, £72. Voted £12.—Daughter, aged 55, of late M.R.C.S. No income and unfitted to earn her living. Relieved six times, £[illegible]. Voted £18.—Widow, aged 40, of M.R.C.S. Quite unprovided for at husband's death, and endeavours to support herself and two delicate children by selling old clothes on commission and by doing needlework. Relieved once, £10. Voted £10.—Daughter, aged 30, of late M.R.C.S. Was obliged to give up a post as typist some months ago owing to a complete breakdown in health, but hopes shortly to be well enough to start again. Relieved six times, £34. Voted £12.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 62.)

XXIII.—INSURANCE IN HUNGARY.—THE GREAT STRIKE AT COLOGNE.

FROM Leipsic I proceeded to Frankfurt-am-Main d to Cologne, passing *viâ* Karlsbad, where I made me inquiries on my way as to the working of the surance law in Austria. All forms of organisa- on are difficult in Austria because of the great riety of nationalities that go to make up the mpire. These nationalities have different languages, ifferent religions, and different political aspira- ons, yet the Austrian insurance law is common to e entire Empire, so that the medical profession in is country can take hope as to the possibility of nion in dealing with the questions involved. The ungarian insurance law does not resemble the erman law as closely as does the Act of the erman-speaking provinces of Austria. In Germany mpensation for accidents is provided by employers ssociated according to their trades. In Austria his is done by the provincial administrations nd institutions. But so far as medical attend- nce and sick allowances are concerned, the ystem is the same in Germany, Austria, and ungary. In Germany, however, invalidity and ccidents are dealt with separately. In Hungary here is no provision for invalidity, but a joint dministration for providing against sickness and ccidents. The doctors complain that they are *ependent on the societies which administer the* nsurance law. These societies are not unlike our nglish Friendly Societies, only the Government orces the workmen to belong to them. The *anaging committees consist half of workmen and* alf of employers.

What Hungarian Insurance Doctors Earn.

Medical men can prescribe anything that is within the official Pharmacopœia, and this regardless f cost. It is not surprising, therefore, that the ocieties complain of the doctors' extravagance. hey even go so far as to accuse some *practitioners* f running up the drug bill so as to get a commission from the dispensing chemist. Doubtless this is one of the exaggerations that will arise in consequence of resentment. In Hungary the medical men are paid annually for each insured person from 5 to 7 kronen (4*s.* 4*d.* to 6*s.*). As this sum covers the families also, it will be seen that the pay is altogether insufficient. It has been calculated that this rate of payment works out at 6*d.* to 8*d.* per item, while in the very bad districts it falls to only 4*d.* per visit or consultation. The remuneration is so small that if on one or two rare occasions some less scrupulous practitioners have resorted to an unprofessional means of increasing their income, the fact, however deplorable, may be not altogether surprising.

In Hungary the doctors are supposed to receive 25 per cent. of all the contributions paid to the insurance funds, but it does not seem as if they had many insured persons entrusted to their care. Thus at Budapest, which is the most important centre, there is one great society, consisting of about 300,000 insured members. As, however, this society employs 560 medical men it can only allocate an average of some 540 insured persons to each of its medical officers. That is not much if only the income which such patients bring in is considered; but, as it includes the families as well, even making allowance for a certain number of bachelors, it must mean on an average a population of about 2000 for which each medical officer is held responsible. Even at the highest rate of payment, a capitation fee of 6*s.* for 540 insured persons equals £162 a year for attending the insured and their families, or about 2000 persons. The pay is thus reduced to a fraction above 1*s.* 7*d.* per head per annum. Miserable as this seems, I was assured it had only been obtained after many medical strikes, and is a considerable improvement on what used to obtain not many years ago. As an explanation it must be borne in mind that wages in Hungary are very low, and the subscriptions paid into the sick or insurance funds are correspondingly small.

A Five Years' Strike at Cologne.

When I reached Cologne I found, in a modified and mitigated form, the strike of 1909 was still continuing in 1913. But the medical men were in the main defeated, though they continue the struggle. The societies had formed themselves into a large trust, and in 1909 were able to engage the services of 60 medical men to replace the doctors who refused their coöperation. This is nearly double as large as the outside assistance which could be obtained during the strike of 1904, and therefore the Government had not the same cause to interfere by insisting that there should be enough doctors to attend on the insured. Nor were the 60 all imported; 14 of them were Cologne practitioners who had changed their views. Yet the opposition to medical views was not engineered without a struggle. The Cologne *Cassa* had to hunt all over Germany and, strange to say, it was at Leipsic that the greatest number of medical men willing to act against the interests of their profession was found. Large sums had to be offered to induce medical men thus to incur the opprobrium of their profession. In some cases as much as £500 a year, which is considered a large sum in Germany, and a contract for 10 years were offered. Then, to make their offers more tempting, the *Cassa* was willing to allow its medical officers to treat private patients and even promised to endeavour to secure such patients. A few societies have remained faithful to their old doctors and would not employ the imported strike-breakers, who are ignored by their professional brethren. There is a statute of the Leipziger Verband which forbids its members to consult with, or even to salute, a strike-breaker. Nor is any sort of acquaintance or association with the wives and children of strike-breakers allowed. The strike-breakers are practically boycotted; but they are, comparatively speaking, well paid. None of them are, as a rule, sent for to attend the visitors who frequent the hotels, and they have little or no connexion among the richer families. There are now about 82 doctors in the employ of the Cologne Insurance *Cassa*. I had an opportunity of speaking with one of the Government income-tax assessors, and ascertained that one of these imported doctors earned 9200 marks last year, or not quite £500; also it was shown that the profession has lost a great deal through the strike, perhaps as much as 1,000,000 marks (£50,000).

Raising the Wage Limit in Germany.

In spite of this great sacrifice the profession still believes a sort of victory will crown their strike, though it is now in its fifth year. They at least have succeeded in making it impossible for a medical man desirous to rank high in his profession to serve the *Cassa*. Formerly, when the doctors were paid according to the number of insured persons on their list, there was some abuse. This was notably the case in regard to the railway servants, the lists being too long. To-day the imported doctors are paid a fixed annual salary however many patients they may have to see. To make them diligent a system of bonuses has been instituted, and thus they obtain payments over and above their incomes for what is considered extra work, *pro rata* of that extra work. Perhaps the new law, though unfavourable to the interests of the medical profession in general, may be of help in respect to the Cologne dispute.[1] It was to have come into operation last year, but the complications were so great that its application was postponed to 1914.

There are so many societies and each *Cassa* is so differently organised that it is no easy matter to apply the new law. In Cologne alone there are 16 different societies; some are for single men, others for public servants, others for factory workers with complicated subdivisions. They may all be united in one great *Cassa*.

The new law raises the wage limit for compulsory insurance from £100 to £125 a year. Therefore, a very large section of the population which paid fees will become contract patients, and the conditions in Germany will come nearer to those that prevail in England. This is distinctly threatening to medical interests. The new law will place under the care of imported doctors at Cologne, and any other city where similar troubles may arise, persons who till now have chosen their own medical attendants, and have been treated, so I am led to believe, with much greater care than they are likely to obtain from any imported staff employed by a *Cassa*. Already and within the £100 income limit there is a large number of insured persons who are very dissatisfied. So much is this the case that, in spite of the smallness of their incomes, they prefer to pay fees to an independent practitioner, and do not call in the insurance doctor. When the insured had, from 1904 to 1909, free choice of a medical attendant they had no need to pay fees. As insured persons they were generally able to secure the services of the medical attendant they preferred.

Lowering the Profession in Germany.

Contract practice, combined with the imposition by the *Cassa* of a doctor chosen by the *Cassa*, does undoubtedly tend to lower the status and aims of the medical profession in Germany, and that is why the more intelligent patients made so vigorous a claim for the free choice of medical attendants. They insisted that doctors should not be employed as the servants of the *Cassa*, but remain free men with patients coming freely to them, a point of view as clear to the medical men in Germany as in this country. The profession look forward to an improvement in the situation because the advantages of the free choice of doctor are becoming more and more appreciated. For another reason the victory may yet incline to medicine. There are signs that the imported doctors may get tired of the position which they occupy and go away. The patients are not contented with a medical attendant who, being secure of his income, has no motive for taking interest in his patients, a feeling which indicates that the bonus system alluded to has borne small fruit. On more than one occasion I have asked German practitioners whether, on the whole, the law on compulsory insurance has helped to raise or has it tended to lower the medical profession. As a result of these inquiries I think it may be said quite decisively that "medical men are not as highly esteemed to-day as they were 30 years ago," and I take these words from the mouth of a highly esteemed Cologne physician, who added that "to-day the insurance doctor is looked upon as an underpaid artisan."

Malingering in Germany.

Then there is in Germany, as in England, the great question of malingering which threatens with financial trouble, that in the weaker cases may lead to bankruptcy, more than one *Cassa*. For in Germany, as in England, this is a real "doctor's dilemma." If he denounces malingering he will be regarded as a hard and impracticable officer by the public, especially if he is a factory doctor, and he may not be re-elected to his post. On the other hand, if he appears to give sick certificates too readily his accessibility will be abused by the public, he will be accused of compromising the finances of his society, and be blamed by the management thereof. Unless the insurance doctors and the management of the societies work harmoniously together this difficulty must arise, but such harmony does exist, I was assured, at Frankfort, Munich, or Leipzig. In those towns, if the doctor was to countenance any form of sickness that was adjudged to be malingering he might be made to pay for the extra expense that had been occasioned. Of course, there must be an expert to act as referee, and all suspicious cases are sent to him either by the *Cassa* or the doctor who has attended the patient. If, further, the *Cassa* and the referees do not work well together there will be serious trouble, for the estimate of a good referee arrived at by a *Cassa* is based upon his powers of protecting the funds. At Cologne much discord has existed on this question. The *Cassa* wanted to use the referees to get a case up against the doctors who are now refusing coöperation, and to show that a free choice of doctor would be too expensive. The referees, in the opinion of the *Cassa*, ought to be constantly condemning the doctors for extravagance, and demonstrating that those who advocated the free choice of doctors were the practitioners who would be unsuitable for the public work. Of course, the referees did not lend themselves to the carrying out of these manœuvres, so they are not on the best of terms with the *Cassa*.

German Pride in Social Legislation.

It is just because the whole system works badly at Cologne that the doctors who have been on strike for five years still look forward to at least a partial victory. At present some of the imported doctors are paid for doing nothing, for insured persons on their lists will not consult them. They prefer to go to a private practitioner and not even say that they are insured. They know that the medical man to whom they pay fees will not pack them off unnecessarily to hospital. For here I may remind my readers that the position in regard to hospitals is quite different in Germany to that which obtains in England. The hospital being a public institution cannot refuse to take in patients. The insurance doctor, when he is paid a fixed salary, saves himself much trouble by sending his patient off to the hospital. But this increases the taxation by augmenting the cost of the hospital. The *Cassa* does not contribute to the maintenance of insured patients in the hospitals. Now the taxpayer is beginning to discover that the imported doctors make greater use of the hospitals than the doctors who are on strike used to do.

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[1] THE LANCET, Jan. 25th, 1913, p. 257.

The Germans are proud of their social legislation and will see to it that it works properly; therefore, the imported doctors are losing ground in public esteem. It is the boast of Germans that even the poorest, those who are not insured, may always obtain medical advice and the necessary care. There are the doctors of the poor and the hospitals for which no charge is made. Milk, wine, and brandy are forthcoming for the poorest, together with linen, fuel, and whatever else is needed. It is the magistrate who decides what has to be done for those who are ill, are not insured, and cannot pay. The theory is that no one who is ill should be in real want; but this situation costs a good deal, and the public does not desire to see the cost increased because certain medical men send patients unnecessarily to the hospitals. So it comes about that what the organised members of the profession have demanded all along is being gradually recognised as best, not merely for the doctors themselves, but above all for the public at large.

I think that this brief *résumé* of the German position may well be read for its points of comparison with the circumstances in which we now are at home. Similar difficulties are being experienced, and similar remedies are occurring to those interested in various ways. One last comment I must allow myself. The German troubles were perfectly well known to many people before the British legislation was even formulated.

(To be continued.)

KNIGHTWICK SANATORIUM.—The Worcestershire county council has agreed to undertake to provide sanatorium benefit for the insured under an arrangement with the Insurance Committee, and also for the non-insured. The main part of the sanatorium work will be carried on at Knightwick. This sanatorium dates from 1901, when a public meeting was held at Worcester and the Worcestershire Association for the Prevention of Consumption was formed. Mr. James Dangerfield, of Bilston, offered to the association the use of a house and grounds of 29 acres, known as The Agberrows, situated on the Ankerdine Hills, for five years at a nominal rent, with the option of purchase by the association at the end of that time. The offer was accepted, and by means of public subscriptions amounting to £4000 a sanatorium for 16 patients was built and opened in 1902. In 1906 the association purchased the house and grounds at a cost of £6000. In 1902 the county council contributed £300 towards the original building, and the King Edward VII. Worcestershire Memorial Fund produced £4750, which was handed to the trustees for the purpose of enlarging the sanatorium to form a county memorial in memory of the late King. Considerable enlargement is now proposed at an estimated cost of £11,600, towards which is available the memorial fund and £5220 to be received from the Local Government Board, being a grant of £90 per bed in respect of 58 beds. Of the balance of £1630 the county council will pay £1100.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

BRISTOL AND WESTERN COUNTIES.

University of Bristol.

To the munificent benefactions to the University of Bristol for which the Wills family has been responsible yet another has to be added. Mr. A. Stanley Wills has offered £1000 for the purchase of books which are needed for the library.

Research Defence Society.

In connexion with this society an interesting lecture was recently delivered in the large hall of the Victoria Rooms, Clifton, by Dr. Alice M. Corthorn, whose theme was the cruelty of those who sought to prevent the advance of medicine by agitating for the abolition of experiments on animals. The chair was taken by Dr. J. E. King, head master of Clifton College, who spoke strongly as to the necessity of such experiments. Questions asked by opponents of experimental medicine were replied to by the lecturer.

St. John Ambulance Brigade.

During 1913 the Bristol Corps dealt with no fewer than 12,088 cases, the transport department alone being responsible for 2925. On the day of the King's visit to the Royal Agricultural Show 236 officers, men, and sisters were on duty, over a thousand cases being dealt with.

Gloucestershire Royal Infirmary and Eye Institution.

At the last quarterly meeting of the governors of the Gloucestershire Royal Infirmary Dr. E. Dykes Bower, who had reached the age-limit prescribed by the rules of the institution, gave in his resignation as a member of the honorary medical staff, after having served 22 years as honorary surgeon and 32 years as ophthalmic surgeon. The chairman, Canon Eyre, in accepting the resignation on behalf of the governors, alluded to the valuable services Dr. Bower had given to the charity and announced his appointment as honorary consulting surgeon. It was also unanimously resolved to ask Dr. Bower to continue to take charge of the ophthalmic department.

A Munificent Bequest.

The late Mr. R. Hamlyn Hooker, of Weston-super-Mare, has bequeathed £1000 to the Weston-super-Mare Hospital.

Forty Years of Public Health Service.

Dr. Henry J. Alford has resigned the post of medical officer of health for the Taunton rural district after 40 years' service. The chairman of the rural council, in accepting Dr. Alford's resignation, expressed great regret at the decision, while speaking in high praise of Dr. Alford's services.

Jan. 6th.

SCOTLAND.

University of Edinburgh.

THE annual report of the University for 1913 shows that during the year the total number of matriculated students (including 549 women) was 3261. Of these, 1315 were enrolled in the Faculty of Medicine. Of the students of medicine, 563, or nearly 43 per cent., belonged to Scotland; 231, or year by year. In Paris, where there used to be perhaps 50 cases, there are now 300. This recrudescence appears due to the return home of those who have contracted the disease abroad. Dr. Marchoux, chef de service of the Institut Pasteur, has been directed to report on the question. In his opinion the mode of transmission of leprosy is not yet sufficiently clear, and the only effective measure at present is absolute isolation of the patient, such as was practised in the Middle Ages. Should the family desire it, however, this isolation can be carried out at home under medical supervision. Foreign lepers are not to be allowed to enter France, and those already domiciled there must either submit to the French regulations (at the cost of their country of origin) or be expatriated. The propagation of the disease by rats also demands attention. From his own investigations M. Marchoux affirms that 5 per cent. of the sewer rats are affected. A special commission on leprosy is about to be established at the Ministry of the Interior.

Cerebro-spinal Meningitis.

Cerebro-spinal meningitis has again broken out in France, among the garrison of the 136th Regiment at St. Lô, and at Brest. The first case was found at St. Lô at the end of November. The disease was demonstrated micro-biologically, and treated rigorously. All bacillus carriers, of whom 19 have been discovered, are under observation in hospital. Up to date there have been five cases with one death, all in October recruits. At Brest the first case broke out abruptly at the end of December, and within 48 hours two deaths had occurred. Strong measures are being taken to repress the disease.

The Mechanism of the "Knock-out" Blow.

Dr. Somen advances a theory of the mechanism of the phenomena attending the "knock-out" blow on the lower jaw in boxing. These phenomena have been variously attributed to a sudden displacement of the brain or the cerebro-spinal fluid, or to reflex inhibition. Dr. Somen's theory is that the shock of the blow on the chin is transmitted through the temporo-maxillary articulation to the internal ear, where the disturbance of the semicircular canals gives rise to vertigo, loss of equilibrium and of consciousness. The interference with equilibration is even more pronounced when the blow is received on one side, which accounts for the more severe effect of such a blow over one received in the middle of the chin. Physiological experts, like Dr. Babinski, and medical experts in sports, such as Dr. Heckel, who have themselves experienced the effect of this blow, have approved of Dr. Somen's theory. The dangerous points for the boxer are those whence reflexes take their origin—the epigastrium, from its relation to the solar plexus, and the lower jaw from its relation to the semicircular canals of the internal ear. The anterior surface of the larynx should also be mentioned, a blow on which may induce a fatal reflex, but this blow is ruled out in boxing and is practised only by the apaches, who appear to have imported it from the African Kabyles.

Assistance in Childbirth.

The new law for the assistance of women in childbirth, carried six months ago through the perseverance of Senator Strauss, a member of the Académie de Médecine, came into force on Jan. 1st. Henceforth every woman who claims the benefit of the law must make a declaration in writing, signed by herself or attested by two witnesses, to the mayor of her commune. In the case of those mentally incapable the claim can be made by the mayor with the aid of two witnesses. If the patient is at the time in hospital her claim must be passed by the head of the institution, and must state that she is of French nationality and that she works at her own home or in someone's establishment for a wage. It must indicate her family responsibilities and her resources, especially whatever accrues from her husband's work, during her rest. She must furnish a note showing what contributions she (or her husband) pays, as well as a certificate from her employer stating that she works at a regular wage The mayor forwards these documents after due inquiry to the Bureau d'Assistance, which has the right to institute a control inquiry. This bureau draws up a list of the applicants, the first part containing those who have their families in the commune, and the second those who belong elsewhere This last list is addressed to the prefect by the mayor. The assistance is furnished only for the period preceding or following the particular accouchement for which the application was made and application must be renewed for each confinement. Finally, a medical certificate that a rest period is absolutely necessary and mentioning the approximate date of confinement is required. The date on which the benefit comes into force is fixed by the mayor, but may also be determined apart from him by the prefect. The relief is payable after the confinement, even though the child be born dead. For each assisted woman a person is appointed by the mayor from a list, drawn up a the commencement of each year by the Bureau d Bienfaisance, of persons who are willing to act a inspectors of these patients. At the expiration o the period of assistance this person must state whether the mother has nursed her child at the breast. The benefit can be withdrawn on the decision of the mayor or the prefect if the woman does not conform to the regulations. The amount which is fixed by the Conseil Municipal, is from 1 to 2 francs a day.

Death of an Interne from Typhoid Fever.

M. Théry, a young interne who had charge of the typhoid patients in the service of Dr. Macaigne at one of the Paris hospitals, recently succumbed in eight days to typhoid fever, in spite of the most assiduous attention. During the prodromal stage, while suffering from headache and slight fever of which the cause was not yet recognised, he had the misfortune to prick his hand in making a post-mortem examination. This death has caused no little excitement, in consequence of the campaign now being waged against typhoid fever. M. Théry had not had himself vaccinated against the disease, but it is thought that this occurrence will cause antityphoid vaccination, which is at present optional, to be made compulsory in the *personnel* of the hospitals.

Death of Dr. Louis Jullien.

Dr. Louis Jullien, who has recently died after an illness extending over about 15 years, was a distinguished syphiligrapher. He was an *agrégé* of the Faculty of Lyons, but was settled in Paris, where he was physician to the venereal detention wards of Saint Lazare. He wrote numerous works on venereology and contributed largely to the introduction into France of the treatment of syphilis by injections of calomel.

Jan. 5th

Obituary.

SILAS WEIR MITCHELL, M.D., LL.D.

THE veteran American physician and author, Dr. Weir Mitchell, died at his residence in Philadelphia on Jan. 4th in his eighty-fifth year.

Silas Weir Mitchell, who was the son of Dr. John Kearsley Mitchell, himself an author as well as a medical practitioner, was born in Philadelphia on Feb. 15th, 1829. After a grammar school education he went to the University of Pennsylvania to pursue his classical studies. He took his M.D. degree at Jefferson College, Philadelphia, in 1850, and started the practice of medicine in his native city. During the American Civil War he was placed in charge of a hospital there especially established for the purpose of treating the nervous sequelæ of wounds, and the foundation was thus laid of his future reputation as a nerve specialist. The widely known "Weir Mitchell treatment" in nervous diseases, which consists essentially of rest and complete isolation, is credited to him, and he deserves a full recognition of the fact that he perfected this system, and by his writings and practice led to its adoption in certain conditions. The principles involved had been recognised and followed by many medical men at an earlier period. Among his works on nervous diseases should be mentioned Wear and Tear (1871), Diseases of the Nervous System (1881), and Clinical Lectures on Nervous Diseases (1897). He also made some investigations in regard to snake poisons, anæsthetics, narcotics, and anodynes, and other departments of physiological and medical science. To general literature also Dr. Weir Mitchell made some creditable contributions. He published several novels, of which perhaps the most widely and favourably known is "Hugh Wynne, Free Quaker" (1897), in which he depicts with considerable insight the mental attitude, the life, and manners and customs of the people of his native city at the time of the revolutionary war. His first venture in extra-professional literature which attracted any attention was "Hephzibah Guinness," published in 1880; his last "John Sherwood, Ironmaster," in 1911. He wrote, also, several short stories and some poems, among others "The Masque," a poetic drama, which was staged by the late Mr. Wilson Barrett.

Perhaps the most striking lessons of his work are the evidence it affords that success in no field need be despaired of because it delays its appearance until well on in middle life (for his first really successful novel was published when he was 68) and the compatibility of a simultaneous devotion to both literature and the exacting profession of medicine. Many members of our profession have distinguished themselves in various fields outside of it, but such distinction has for the most part been achieved at the expense of their working interest in medical science. Dr. Weir Mitchell used his literary tastes as a means of diversion only in his leisure.

Dr. Weir Mitchell was a foreign member of the Royal Society, an honorary Fellow of the Royal Medical and Chirurgical Society of London, and honorary foreign Associate of the Académie de Médecine and of the corresponding Swedish and Norwegian Academies. Harvard, Princeton, Toronto, and Edinburgh Universities conferred on him their LL.D. degrees, and the University of Bologna its honorary M.D. He had also been President of the College of Physicians of Philadelphia. He died full of years and honours.

BERTRAM THORNTON, M.R.C.S. ENG., L.R.C.P. LOND., J.P.

Mr. Bertram Thornton died at his residence in Margate on Dec. 28th, 1913, in his fifty-seventh year. He received his medical education at St. Mary's Hospital, London, and at Edinburgh, and qualified as M.R.C.S. Eng. and L.R.C.P. Lond. in 1881. After holding the posts of house surgeon and house physician at St. Mary's Hospital he settled in practice in Margate, his native town, where he entered into partnership with his father, whom he ultimately succeeded. He held many appointments, among them those of consulting surgeon to the Royal Sea-Bathing Hospital, and honorary surgeon to the Margate Cottage Hospital. On his retirement from the staffs of these hospitals he was elected a member of their governing committees, to which his intimate knowledge of hospital requirements and management was of great service, and on which he served till his death. To him was largely due the enlargement of the Margate Cottage Hospital in commemoration of Queen Victoria's Jubilee, a scheme to which he devoted much time and energy, and of which Margate is justly proud. He was also police surgeon, medical officer to the Post Office and the Deaf and Dumb Asylum, and school medical officer.

In public health work he was honourably known. He was medical officer of health for the borough, in which capacity he was associated with the radical changes in the sanitation of Margate, which have made that borough one of the healthiest in the kingdom. He particularly supported the Wingham water scheme, under which Margate now gets its ample supply from 14 miles inland. During the time he served the borough the Town Planning Act was adopted, a refuse destructor erected, infant mortality steadily decreased, and a school clinic was established, in effecting all of which improvements his energy and organising capacity proved of the greatest value. He was, like his father before him, on the commission of the peace for the borough, and served for many years on the town council.

Mr. Thornton's health was undermined by repeated attacks of influenza, which put him on the sick list for months at a time. He leaves a widow and four daughters. He will be greatly missed not only by them, but by his medical colleagues, his patients, and his fellow townsmen, among whom his kindly disposition, sincerity, and unfailing courtesy made him greatly esteemed.

JOHN MEREDITH, M.D. EDIN., L.R.C.P. EDIN., J.P.

Dr. John Meredith, of Wellington, Somerset, died recently at Llandrindod Wells, where he had gone on a visit to his sister. The deceased, who was in his 84th year, received his medical education at Edinburgh University and graduated M.D. in 1861, having taken the L.R.C.S. Edin. the year previously. After holding resident appointments at the Edinburgh Royal Infirmary, the Morningside Asylum, and the General Hospital at Demerara, Dr. Meredith commenced practice at Wellington, where he soon obtained a large connexion. He was for many years medical officer of health for the urban district, medical officer to the workhouse, and certifying factory surgeon. He took a great interest in all local matters, and for about ten years represented Wellington on the Somerset county council. He was a magistrate for the county, and surgeon-lieutenant-colonel of the 2nd V.B. Somerset Light Infantry, V.D. (retired). Dr. Meredith will be much missed in Wellington and the district, for he was greatly respected.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Warren O. Plimpton, formerly professor of surgery in the New York Post-Graduate School and Hospital.—Dr. L. Ewer, of Charlottenburg, Sanitary councillor. —Dr. O. Kessler, of Berlin, Sanitary Privy Councillor.—Dr. Louis Jullien, formerly surgeon to the St. Lazare Hospital, Paris.—Dr. G. Vignier, professor agrégé of parasitology in the Algiers Medical School.—Dr. Elie Faivre, formerly physician to the Lyons Hospitals.—Dr. G Juffinger, extraordinary professor of otology and laryngology in the University of Innsbruck, aged 60.—Dr F. Krug, senior staff surgeon of Munich.—Dr. Pascual Gentile, of Buenos Aires, an Italian graduate who was looked upon as an authority on malarial fevers.—Dr. Camille De Clerco, president of several of the medical and scientific societies of Ghent.—Dr. Ernest Snoeck, honorary president of the Belgian Provincial Medical Commission.

Correspondence.

"Audi alteram partem."

THE RESPONSIBILITY OF THE MEDICAL PROFESSION AS REGARDS ANTI-TYPHOID INOCULATION.

To the Editor of THE LANCET.

SIR,—As a worker in the tropics in the ubiquitous position of a civil surgeon, and one therefore who has to deal with almost every variety of patient and disease, I would like to make a most urgent appeal and protest to all medical men in Great Britain.

It has been my fortune to deal with many new arrivals in the tropics, including officials, missionaries, business men, &c. Many of these have come or been sent by their superiors to be inoculated against typhoid. Others, when I have asked them if they have been inoculated, have said, "My doctor at home does not believe in anti-typhoid inoculation and thinks it useless." This latter statement by a professional brother ignorant of tropical work and conditions thrown at the head of one who has seen so many terrible tragedies from the want of inoculation makes it imperative that I should protest as publicly as possible against what I can only consider as loose talk and the want of realisation on the part of the medical man as to how some patients take in, dwell on, and misconstrue any general statement made by a doctor. Unfortunately, the terrible responsibility of the above (to me wicked) advice cannot be brought directly on to the head of him who gave it, when these tragedies occur. Talking this matter over with my friends in the Royal Army Medical Corps stationed here, they have assured me that my experience is not unique, and that they also have come across many such cases.

In conclusion, I would ask any medical man who is a sceptic as regards the value of antityphoid inoculation to study the statistics issued by the Royal Army Medical Corps, and those of the Director General of the United States Army Medical Department. I am also sure that the Director of the Royal Army Medical College, Millbank, would supply information to any one really interested in knowing the real truth.

I am, Sir, yours faithfully,
C. MADDOCK, M.D. Edin., F.R.C.S. Edin.,
Major, I.M.S.
Ahmednagar, India, Dec. 19th, 1913.

"THE DANGERS OF STERILISED MILK."

To the Editor of THE LANCET.

SIR,—The line printed above this is the heading of an important article in the *Times* of Dec. 29th, in which Mr. Robert Mond had a good deal to say against the practice of sterilising the cow's milk on which children are fed. The heading may possibly have surprised or even alarmed some people; others it may have pulled up short and caused them to think, for sterilisation of children's milk is still widely believed in as necessary. It is, indeed, part of the ritual of most nurseries.

The question of the expediency or the necessity of the practice, however, cannot conveniently be entered into by medical men in the public press (though I for one am grateful to the *Times* for bringing the matter forward, as well as for the way in which it has been done), and I hope that THE LANCET will be inclined to open its columns to a discussion on the subject.

I do not know when the sterilisation of nursery milk was first advised, but it is easy to see how it came about. Thus, cows are liable to tuberculosis; milk from a tuberculous cow may give rise to tuberculosis in the human subject; the germs of tuberculosis are killed by a heat somewhat below that of boiling water; children may be fed on milk thus treated without risk of their being infected with the germs of tuberculosis, even if the milk be drawn from tuberculous cows. It is very simple and attractive.

But we do not yet know for certain that milk from a tuberculous cow will infect a human being. Mr. Mond says that children have been reared on unsterilised milk from cows which have afterwards been found to be tuberculous, and have been none the worse for it. He also reminds us that our post-mortem records reveal the fact that tuberculous children are infected by the air-passages rather than by the stomach or bowel. He also tells of certain kittens which, being fed wholly on sterilised cow's milk, died miserably; whilst others, used as a control and fed on plain cow's milk, grew up and flourished. This was a valuable vivisection experiment, and it is to be hoped that by planning it and seeing it carried out, Mr. Mond will not have attracted the suspicion or violence of any of his friends.

Of the biochemistry of the sterilisation of milk I am not competent to speak, but I do know this, that during the process it has been strangely altered, for its taste is quite different. The milk has been changed from a living fluid to a dead one. To the adult this may not signify much, but for the child it may make all the difference, the milk having lost its *living spirit*. What exactly this living spirit of milk may be the chemist is unable to tell us. At any rate, he cannot separate it in his test-tube nor weigh it in his most delicate balance. Yet it exists. Perhaps the physiologist, who is less of a materialist, can make a guess as to its nature. Otherwise it must be left to the medical man to predicate concerning it.

My own opinion is that sterilisation renders cow's milk unsuitable as a food for young children. I am half inclined, indeed, to use the word *dangerous.* I have closely watched infants whose only food has been sterilised cow's milk, and have found many of them poor and ill-nourished, and just in the con*dition to fall victims to tuberculosis. Later on*, I have detected in them the early signs of rickets. In others I have found the tender bones and the spongy or bleeding gums of scurvy. But as soon as the sterilisation of the milk was stopped improvement set in and was continued.

I am, Sir, yours faithfully,
EDMUND OWEN,
Consulting

Upper Berkeley-street.

*** When Mr. Owen says that "we do not yet know for certain that milk from a tuberculous cow will infect a human being," we must point out that certain knowledge of a negative event is almost impossible to come by. All the admirable work done for the recent Royal Commission on Human and Animal Tuberculosis, and the recommendations of that Commission, support the view that infection of the human subject by the tuberculous cow can and does occur — ED. L.

ON THE PATHOLOGY OF RHEUMATOID ARTHRITIS.

To the Editor of THE LANCET.

SIR,—Two articles have recently appeared in THE LANCET which seem to me to have an important bearing on the etiology and pathology of rheumatoid arthritis. One, an annotation headed "Periarthritis after Herpes Zoster,"[1] the other on "The Primary Cause of Rheumatoid Arthritis," by Dr. H. Warren Crowe,[2] and I shall be obliged if I may, as briefly as possible for the present, point out their significance.

In the annotation reference is made to a case reported by M. Georges Guillain and M. Daniel Routier to the Société Médicale of Paris on Oct. 31st, in which chronic periarthritis of the hand followed herpes zoster of the dorsal aspect of the left hand and of the forearm, the eruption, *associated* with continuous pain and stiffness of the finger-joints, lasting 15 to 18 days, and for a long time afterwards there was *œdema of the hand.* When the pain ceased the stiffness of the joints remained, and the hand could not be used. After two years there was some improvement, but the hand could not be shut. Further details are given, and reference is made to other cases reported by M. Guillain and M. Pernet in 1910, and M. Claude and M. Velter in 1911, of "zona of the upper limb followed by *lesions resembling* arthritis deformans."

Now these cases seem to me to illustrate and confirm in a remarkable manner the view which I have held for many years that the progress of arthritis deformans is associated with and dependent upon irritative or destructive lesions of the anterior cornua of the spinal cord, the lesions being especially marked in the cervical and lumbar enlargements.

According to von Bärensprung, *zona is* the result of inflammation of the intervertebral ganglion on the root of the nerve from which are derived the branches distributed to the part of the skin on which the eruption appears. The ganglion is found to be swollen, congested with blood, softer and redder than natural. The blood-vessels are engorged, and the tissue under the microscope exhibits minute hæmorrhages which press upon and destroy the ganglion cells. The researches of Head and Campbell also indicate that the disorder is associated with hæmorrhages and *inflammatory foci in the ganglia of the posterior* roots, with destruction of the ganglion cells of the nerves supplied to the affected part.

It is not unreasonable to assume that in some of these cases the irritation caused by the inflammatory or other changes in the ganglion cells of the posterior roots may give rise to changes in the ganglion cells of the anterior horns and in the anterior nerve roots; in the same way as irritation of the peripheral end of afferent nerve fibres by reflex action will cause a nervous stimulus to pass along the efferent fibres proceeding from the anterior cornua. In this way the nutrition of the muscles, bones, and joints over which the ganglion cells of the anterior horns are supposed to exercise a controlling influence will be modified and produce the changes associated with rheumatoid arthritis in the limb to which the affected nerve is distributed.

On these grounds I urged 12 years ago[3] that the most effective treatment of rheumatoid arthritis is by blistering the spine, especially in the regions of the lumbar and cervical enlargements of the cord, and consequently I think that, in the case reported by M. Guillain and M. Routier, the careful application of cantharides ointment on each side of the seventh cervical vertebra would have been followed by a marked decline of the arthritic trouble. Of course, as the patient suffered from diabetes more than ordinary care would be necessary in applying the counter-irritation. Full details as to carrying out this plan of treatment are given in the Proceedings of the Royal Society of Medicine, May, 1910 (Balneological Section), p. 109.[4]

Dr. Warren Crowe's paper on the Primary Cause of Rheumatoid Arthritis is, I venture to say, one of the most important and suggestive that have lately appeared on the subject. The fact that in almost all cases he has been able to discover and isolate a new streptococcus in the urine bearing a close relationship to micrococcus epidermidis, and that the administration of a vaccine prepared from this *to individuals suffering from rheumatoid arthritis* has been followed by the relief and cure of the disease, is very strong evidence that there is some relationship between the streptococcus and the disease, more especially when similar beneficial results have been obtained by other observers.

But the question immediately suggests itself, In what way does the avirulent micrococcus epidermidis of the skin acquire pathogenic power? With all due reserve I venture to suggest that it arises from the presence in the blood-stream of the products of imperfect metabolism of the muscular and other tissues; and that this imperfect metabolism is due to changes in the circulation resulting from irritation in various parts of the body of the afferent nerves, and so bringing into play the action of the vaso-motor nerves, as may be illustrated by the effects resulting from section of the sciatic nerve, and irritating the peripheral end. Division of the sciatic nerve causes dilatation of the small arteries of the foot and leg, whereas irritation of the peripheral end of the divided nerve gives rise to constriction, the effect varying according to the interval which has elapsed after section of the nerve. Irritation of any sentient part of the body will induce an afferent impulse ascending by the posterior roots of the nerve through the spinal cord to the brain, and cause a reflex and efferent impulse to descend along those fibres of the cord which pass out by the anterior cornua and anterior roots of the nerve. These contain both motor and vaso-motor fibres, and by the action of the latter there will be constriction of the small arteries, a diminished supply of blood, and consequently of oxygen, to the part, and as a result imperfect oxidation and imperfect metabolism of the tissues, morbid substances being formed and passing into the blood to be eliminated by the various excretory organs. If not excreted it is conceivable that the avirulent micrococcus epidermidis cultivated in such a medium may undergo some change in its constitution, become pathogenic, and present the characters of the micrococcus deformans, the toxin of which may irritate the afferent nerve fibres or the posterior roots and so develop the changes (or intensify pre-existing ones) in the ganglia of the anterior cornua, upon which I believe this disorder depends.

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[1] THE LANCET, Nov. 29th, 1913, p. 1560.
[2] THE LANCET, Nov. 22nd, 1913, p. 1460.
[3] THE LANCET, April 6th, 1901, p. 1000.
[4] THE LANCET, Sept. 24th, 1910, p 927.

I hope before long to develop this view more fully. If the theory is true it is applicable also, with some modifications, to acute rheumatism and gout, but, most important of all, it indicates how in some measure an avirulent microbe may become pathogenic.

Upwards of 30 years ago Sir James Paget wrote: "Disturbances in the nervous system in some part and form may be regarded as a factor in every case of gout. There are reasons enough for thinking that changes in the nervous centre determine the locality of each gouty process, while changes in the blood and tissues determine its methods and effects: and that thus we may explain the symmetries of disease in gout—sometimes bilateral, sometimes antero-posterior—and thus its metastases." This quotation, I hold, is equally applicable to the pathology of acute rheumatism and of rheumatoid arthritis.—I am, Sir, yours faithfully,

P. W. LATHAM.

St. James' Court, Buckingham Gate, S.W., Dec. 30th, 1913.

BIG GAME AND SLEEPING SICKNESS VERSUS MAN AND HIS ANIMALS.

To the Editor of THE LANCET.

SIR,—In reference to Dr. Warrington Yorke's letter in THE LANCET of Jan. 3rd I quite agree as to Taute's experiment that no generalisation should be made from one fact. My phrase "goes to prove" was not intended to mean this. To be more explicit, allow me to enlarge it thus, "tends to prove for what it is worth," and this it certainly does. Dr. Yorke says that this experiment shows that healthy human beings are able to a great extent to resist infection, and later that the disease has proved invariably fatal. Do these two statements lie comfortably alongside each other?

Considering all the points raised I am at a loss to understand why the would-be slaughterers of the game cannot be satisfied with an experiment over a fenced area of a few square miles, instead of a general massacre by the natives and others that is advocated. Such an experiment would be likely to teach us a great deal if the money could be found.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 3rd, 1914. SHEFFIELD NEAVE.

THE CENTENARY OF SIR JAMES PAGET.

To the Editor of THE LANCET.

SIR,—I think it will interest your readers to learn that as Sunday next, Jan. 11th, is the centenary of the birth of Sir James Paget, the occasion is being specially commemorated in the parish church of Great Yarmouth, with which Sir James Paget and his family were intimately connected. His son, the Bishop of Stepney, is preaching throughout the day, and the morning service will be attended by the mayor in state and the aldermen and councillors of the borough, the naval and military forces stationed in the town, and by a body of doctors and nurses. There will also be present the Master of Downing, Professor of Surgery in the University of Cambridge, and delegates from the Norwich Medical Association and from several scientific societies.

I am, Sir, yours faithfully,

C. LISLE CARR,

Yarmouth, Jan. 6th, 1914. Vicar of Great Yarmouth.

THE GENERAL MEDICAL COUNCIL AND APOTHECARIES' HALL OF IRELAND.

To the Editor of THE LANCET.

SIR,—My Board having taken the view that the recent action of the General Medical Council in transmitting charges against the Apothecaries' Hall to the Privy Council was unconstitutional, beg to enclose for your information the following letter from the Privy Council.

I am, Sir, yours faithfully,

HENRY W. MASON, L.R.C.S.I.,

Mary-street, Dublin, Jan. 2nd, 1914. Registrar.

[COPY OF LETTER RECEIVED FROM PRIVY COUNCIL, JAN. 1ST, 1914.]

The Clerk of the Council, Privy Council Office,
London, S.W., Dec. 31st, 1913.

SIR,—Referring to your letter of the 22nd inst., I have to state that no useful purpose would be served by submitting to the Lords of the Council the reply of the Apothecaries' Hall of Ireland to certain charges made by the General Medical Council, since the matter in question is not before their Lordships.

I am, Sir, your obedient servant,

The Secretary, Apothecaries' Hall of Ireland, Mary-street, Dublin. ALMERIC FITZROY.

A PROPOSED PRIVATE HOSPITAL.

To the Editor of THE LANCET.

SIR,—A good deal of attention is now being directed to the question of private surgical or medical homes for the middle classes, and it is likely that increasing attention will be devoted to the subject in the near future.

In his letter on the subject in your issue of Jan. 3rd, with the above title, Dr. A. B. Bradford states that the remedy required at the present time is to build a large central private hospital for paying patients—to establish, in fact, a hotel for sick people in place of the existing lodging houses. He further indicates that it must be centrally situated in order to be convenient to patients and medical men, and it must be capable as to price of housing all a medical man's cases who can afford fees; and, as far as accommodation goes, must begin where the hotel has left off, and not where the hospital has stopped.

It may be of interest to Dr. Bradford and to others interested in the subject to know of the existence of the Queen Mary Nursing Home in inburgh. This institution was planned to give ;ients of moderate means the comforts, appli- :es, and conveniences which are provided ıtuitously at hospitals for the poor. It contains beds, and its development was made possible 'the coöperation of the medical profession and ; public. It is not run for profit and is intended be self-supporting. It is arranged to admit cases ying at the rate of from £1 1s. per week for board d nursing to £3 3s., patients paying the latter only having a room to themselves. Previous perience of a similar home run on a small scale d justified the belief that such a home could be f-supporting, and it is gratifying to find that as a sult of its first six months' working there is a very bstantial balance on the right side.

The Queen Mary Home has already attracted nsiderable attention, having been visited by ıny medical men and others interested from her centres. The correctness of the principle ıderlying the establishment of this home may be garded as established, and it is probable that, ike in the interests of the profession and of the blic, an extension of such a scheme will be dely adopted in the future.

I am, Sir, yours faithfully,

CHALMERS WATSON.

dinburgh, Jan. 5th, 1914.

[HE PHOSPHORUS CONTENT OF RICE.

To the Editor of THE LANCET.

SIR,—I am at present having to deal with an)idemic of beri-beri in the British regiment at this ation. The disease, so far as can be found out, ıs not been described as occurring in the Sudan fore.

In the course of investigations as to the possible .use attention has been paid amongst other things the rice, though that is not regarded as the prob-)le cause of the present outbreak, as rice is not a rge constituent of the soldiers' food.

On referring to an article on the subject in your sue of July 26th, 1913, p. 236, an annotation on)ri-beri in Siam and the work of Dr. H. Campbell 'ighet and others, I find the following statement: 'The phosphorus content of a rice should not be ss than 4 per cent., and this should be taken as e indicator of the safety or otherwise of the rice." The figure mentioned is obviously a typographical ror, and I should be much obliged if you would ıdly inform me what the correct figure is.

Dr. Beam, research chemist at the Wellcome)ical Research Laboratories, has kindly analysed me the rice issued to the troops here, and his re for phosphorus is 0·13 per cent. This rice is ordinary polished rice.

I am, Sir, yours faithfully,

A. D. STIRLING,
Captain R.A.M.C.

lah Barracks, Khartoum (Sudan),
Dec. 27th, 1913.

* We regret very much to have overlooked the obvious rint. The figure should have been, as Captain Stirling orrectly surmised, 0·4.—ED. L.

THE ATROPINE TREATMENT OF SEA-SICKNESS.

To the Editor of THE LANCET.

R,—*Apropos* the advocacy of atropine in sea- ness by Fischer, alluded to last week in an)tation in THE LANCET, I should like to say I have found the hypodermic injection of)hate of atropine to be the most reliable cure ıea sickness I have ever tried. In 1906, when)lling for my health as surgeon in charge of a liner, I met an American physician who told me of this remedy, and I can strongly support Fischer's opinion as to its value. The milder cases do not often come under the notice of the surgeon, whose time is pretty fully occupied when in charge of from 1500 to 2000 people, and who has to act as surgeon, physician, bacteriologist, anæsthetist, and sometimes nurse. When called to a bad case of sea-sickness my plan was to give one-hundredth part of a grain of atropine sulphate hypodermically and repeat if necessary in an hour or two; often the sufferer would sleep a few hours, possibly because he had been without sleep for some time, and would then come up on deck and have no return of the sickness. I can endorse Fischer's opinion that relapses were not common and that one injection frequently cured.—I am, Sir, yours faithfully,

REGINALD POLLARD, M.B. Durh., D.P.H., &c.

South Kensington, Jan. 6th, 1914.

INSTRUCTION IN THE NATURE OF ALCOHOLISM.

To the Editor of THE LANCET.

SIR,—May I ask you for space to endorse emphatically Dr. Hugh Wingfield's appeal for instruction for the rising generation of medical practitioners on the nature and proper treatment of alcoholism? It is essential that old and provedly erroneous theories as to cause and treatment of delirium still to be found in medical text-books should cease to be taught, and the more modern and proved theories taught in their place. If alcoholism and its victims are to receive proper attention, which they are not getting at present, the nature of alcoholism must be understood, as at present it most emphatically is *not*, by the bulk of general practitioners. The differential diagnosis between dipsomania, pseudo-dipsomania, and chronic alcoholism must be understood and the treatment appropriate to each applied. Lastly, the profession must be taught, in order that they may in turn teach the laity, that this or that combination of drugs, while good so far as it goes in selected cases, or mere isolation from alcohol with or without drugs, while also of benefit so far as it goes, is not, without psychic treatment in its widest sense, sufficient or efficient treatment of alcoholism; and that imprisonment or the infliction of fines (the latter usually paid by long-suffering friends and relations) for drunkenness is as harmful as it is futile.—I am, Sir, yours faithfully,

J. W. ASTLEY COOPER, L.R.C.P. Edin.,
Medical Superintendent, Ghyllwoods Sanatorium, near
Cockermouth, Cumberland.

Jan. 5th, 1914.

THE NATIONAL INSURANCE ACT: THE SURPLUS FUND.

To the Editor of THE LANCET.

SIR,—As the panel practitioners have evinced considerable interest since the publication of my letters to the press *re* the disposal of the so-called surplus fund, they would, I believe, like to learn whether I have any further developments to announce.

1. Mr. Dawes, the chairman of the London Committee, writes to say that he has no authority to accept any legal notice on behalf of the Committee, but that all formal communications should be addressed to the clerk of the committee.

2. The chairman of the London Panel Practitioners' Committee writes as follows:—

I may say that our committee do [illegible] that the doctors who accepted insured persons [illegible] paid in full, and I can assure you that we shall see that this is done. We also intend to submit a scheme for the equitable distribution of the unallotted residue.

3. Dr. Beaton has also sent me a letter which, although not confidential, contains matters of a controversial nature (other than the main point at issue), in regard to which I have asked him to defer the discussion till after the panel doctors have been paid their legitimate dues, when the unallotted residue alone will remain to be dealt with. I am, Sir, yours faithfully,

Tooting, S.W., Jan. 5th, 1914. EDWARD NUNDY.

*** Previous communications from Mr. Nundy are referred to in another column (p. 149).—Ed. L.

DISLOCATION OF THE PROXIMAL PHALANX OF THE GREAT TOE.

To the Editor of The Lancet.

Sir,—In an annotation in The Lancet of Jan. 3rd on the subject of dislocation of the proximal phalanx of the great toe this lesion is described as one of extraordinary rarity. It may therefore possibly interest those who have collected or may be about to collect statistics on this dislocation to know that an instance of it is recorded in the surgical registers of St. George's Hospital for April, 1904, under the distinguishing number 696 S.R. The injury was sustained in a fall from a wall, and the patient died a few days later from head injuries sustained at the same time.—I am, Sir, yours faithfully,

Henry Robinson, M.D. Cantab.

Brechin-place, S.W., Jan. 5th, 1914.

THE NATIONAL INSURANCE ACT.

Medical Benefit and the New Year: the Card System.

In response to numerous medical representations that insured persons should be provided with vouchers, the English Insurance Commissioners have adopted a Medical Card system which is described in a leaflet (Memo. 189/I.C.). Besides affording a ready means of identification of his panel patients by a practitioner without the necessity of examining his card index list, the voucher provides an opportunity for imparting to insured persons information and instructions as to the procedure necessary for obtaining medical benefit and the rules which must be observed. The Commissioners anticipate that the Medical Card system will facilitate the work of medical practitioners and the administration of medical benefit generally; while it should assist Local Insurance Committees to secure more accurate registration of the insured persons in their area and consequently more equitable remuneration of practitioners. Approved Societies will probably avail themselves of it for the purpose of informing their members that red medical tickets and forms Medical 32 are no longer available for the purpose of choosing a doctor or institution and will not be accepted. The new medical card is in itself a document which will require a good deal of study before the insured person masters its details, but will be found when duly studied to provide for all the more likely contingencies.

The card is of buff colour. It is a double fold card, measuring $4\frac{5}{8}$ inches by $3\frac{7}{16}$ inches when doubled, and contains on the front page blank spaces for written particulars of the insured person and the name of the medical attendant. The second page contains general instructions. The third page contains blank forms of application to be placed on a selected practitioner's list by an insured person who has hitherto failed to make his choice or has moved into another district, together with spaces in which the practitioner can indicate that he intends to claim for mileage or to supply drugs. On the fourth page is a summary of the rules as t the conduct of insured persons in relation to thei medical attendant, also a form of application fo medical treatment during temporary residenc away from home, and a space for the signature of the practitioner agreeing to give such temporary treatment. Thus there are spaces to be made use of: (*a*) when the patient is no on the list of a doctor and wishes to choose one (*b*) when he has removed altogether to a new address and therefore cannot get treatment from the medical man named on the front page; (*c*) when he is temporarily residing in a new locality where he does not expect to remain for as long as three months from the date of his arrival. Circular 41/I.C. accompanying the card gives the information that the latter is to be obtained by new entrants to insurance on receipt by the Insurance Committee from the society of the index slip relating to the member. Persons already insured who have not chosen their medical man can get their medical cards by filling form Medical 50, and sending it to th Insurance Committee. Insured persons already o the list of a medical man will be furnished wit medical cards by the Insurance Committee "in du course." When once an insured person has got his card he must be prepared to produce it to the medical man whenever treatment is required. Form Medical 50 has been referred to above; it has been issued simultaneously with the medical card and will require equally careful study before it is filled up by those whom it concerns. Circular 41/I.C contains full particulars, besides those mentioned, as to the steps to be taken in connexion with the new system of Medical Cards, and also contains explanations and instruction relating to the obtaining of medical and sanatorium benefit by insured persons aged 65 or over on entry into insurance.

A particular Medical Card will enable the insured person to obtain treatment during temporary residence in one area only and from one doctor. O and after Jan. 12th next no insured person will be able to exercise choice without a Medical Card, and medical men should, therefore, not accept insured persons failing to present duly completed cards The cards of patients accepted by him, whe properly filled in, should be retained and signed b the practitioner and forwarded to his Insura Committee. He should not take the Medical Car of those whom he does not accept or who has failed to complete their cards. When the system in full operation a practitioner on giving tre will be entitled to require presentation of the Medical Cards by insured persons.

Exempt Persons' Benefits.

The National Health Insurance Joint Committe acting jointly with the Insurance Commissione and the Welsh Insurance Commissioners, ha issued regulations to come into operation diately under the title "National Health Insura (Exempt Persons' Benefits) Regulations, 1913 Exempt persons are those holding certificates exemption under Part I. of the principal Act, a the benefits to which they are entitled are medic benefit and sanatorium benefit. Exempt persons in respect of whom not less than 20 contributions have been paid are entitled to the benefits, those making application to the Commissioners becoming so entitled six weeks after the date of their application and those not so applying at the commencement of the "benefit period" next after the end of the "contribution period" in which the twentieth contribution was paid in respect of them. Contributions paid in respect of exempt persons are to be carried by the Commissioners to an Exempt Persons' Fund, and provision is made for the transference of various amounts from this fund to the General Medical Benefit Fund, the General Medical Benefit Administration Fund, and the General Sanatorium Benefit Fund. Financial provision is made for the case of exempt persons entering into insurance as employed contributors and for securing sickness benefit for them.

THE COMPLIMENTARY DINNER TO DR. CHRISTOPHER ADDISON, M.P.

The dinner to Dr. Addison, M.P., at which the Chancellor of the Exchequer will preside, will be held at the Trocadero Restaurant on Tuesday, Feb. 3rd. The following have joined the committee:—Lord Sandhurst, Sir Clifford Allbutt, Sir Arbuthnot Lane, Sir Almroth Wright, Sir Victor Horsley, Sir Robert Philip, Sir Shirley Murphy, Colonel Sir William Leishman, the *Right Hon.* R. Farquharson, M.D., Professor Sims Woodhead, Professor Keith, Professor Arthur Thomson, Professor William Wright, Professor A. M. Paterson, Professor William Bulloch, Dr. F. W. Mott, Dr. Arthur Latham, Mr. Lenthal Cheatle, Mr. C. J. Bond (Leicester), Dr. Ewen Maclean (Cardiff), Dr. Adam Fulton (Nottingham), Mr. D. F. Todd (Sunderland), Dr. Buist (Dundee), Mr. C. E. Fleming (Bradford-on-Avon), Dr. Norman Walk

siderable number of Dr.

colleagues. Tickets for

excluding wine) should be applied for without delay. They can be obtained from Sir John Collie, 25, *Porchester-terrace*, W., and Dr. H. H. Mills, 21, St. Mary Abbots-terrace, Kensington.

CERTIFICATES SIGNED BY MEDICAL MEN NOT UPON PANELS.

The Non-Panel Committee of the British Medical Association has issued a circular calling attention to the mistaken idea held by many insured persons that they can only obtain payment of sickness benefit by producing the certificate of a medical man on the panel. That this is not the law was decided by the Court of Appeal in Heard *v.* Pickthorne, and any insured person who chooses to be attended by any medical man whom he may select is entitled to do so. He is not then entitled to obtain his medical man's fees or payment for his medicine out of the insurance funds, unless, of course, he is being attended by a non-panel medical practitioner after having obtained the permission of the Insurance Committee to make his own arrangements. He is, however, entitled to the other benefits, including sickness benefit, and to obtain the latter by producing the proper certificate signed by a medical practitioner, whether on the panel or not. It is to the interests of medical men not on the panel, and of their patients, that the above should be clearly recognised, not only by the insured, but by members of Insurance Committees, who are stated to be in some cases under the impression that persons permitted to make their own arrangements will not be able to obtain sickness benefit upon the certificates of the practitioners whom they may select.

A SUGGESTION AFFECTING PART OF THE SURPLUS FUNDS.

Mr. E. Nundy, a medical man on the panel and a barrister, makes a suggestion with regard to the surplus funds accumulated through the failure of insured persons to select their medical attendants, which may be summarised as follows. Mr. Nundy is of the opinion that a very large proportion of the London insured who did not select their medical attendant at the beginning of 1913 did so in the course of the year and that any medical man so selected ought to have been credited with a full year's fees in respect of each patient coming on to his list during the year in whatever quarter he may have been accepted as such. This view does not, of course, affect the case of patients who made no selection in the course of the year, but with regard to those to whom it does apply Mr. Nundy suggests the bringing of a friendly action with a view to establishing the legality of payment upon the principle which he advocates. It happens, however, that the mode of payment actually adopted was in accordance with the Administration of Medical Benefit Regulations, 1912, Schedule I., Part II. A, and Mr. Nundy asks that the London Insurance Committee in defending the action which he proposes should not rely upon this part of the schedule. He further urges that its significance was so misunderstood by medical men who outwardly assented to it when they went upon the panel, that their agreements in respect of it would not be binding upon them. We confess that we do not see how defendants to an action, friendly or otherwise, could start by failing to plead the regulation under which they acted when the legality of their proceedings is the point for consideration, and we are a little doubtful as to whether the schedule referred to is quite as obscure as Mr. Nundy declares. In comparison with some paragraphs in the new regulations it strikes us as lucid rather than otherwise. It appears, however, from a letter which we publish this week from Mr. Nundy that the chances of any such action being brought are rather remote.

THE COST OF DRUGS AT ABERDEEN.

At Aberdeen comment has been made upon the fact that the cost of drugs per head under the National Insurance Act has been 1*s.* 11*d.*, as against 1*s.* 10*d.* at Dundee and Inverness and lower figures elsewhere. The chemists on the panel approve these figures, and incidentally pay a compliment to the medical practitioners in their city by arguing that a low drug bill means the cheapening of prescriptions at the expense of the patients. The medical men, they contend, have sacrificed their own interests—i.e., their chance of receiving the "floating sixpence"—by prescribing the best medicines for their insured patients. The *Aberdeen Journal* refers to this as an explanation "reflecting the highest credit on city medical men."

NEW MEDICAL OFFICERS ON THE STAFF OF THE ENGLISH COMMISSION.

In connexion with the posts of medical officer on the staff of the National Health Insurance Commission (England), for which applications were recently invited, the Insurance Commissioners announce that they have made the following appointments:—Edward William Adams, M.D. Lond., lecturer in materia medica, pharmacology, and therapeutics, and internal examiner in materia medica and pharmacology in the University of Sheffield; James Pearse, M.D., C.M. Edin., medical officer of health of Trowbridge urban district council; William Vernon Shaw, M.A., M.D. Oxon., medical officer of health to Malton and Norton (Yorks) rural district councils; and Barbara Martin Cunningham, M.D. Edin., D.P.H. Camb., resident medical officer at Clayton Vale Hospital, Manchester. Dr. Adams, Dr. Pearse, and Dr. Vernon Shaw are also engaged in private practice.

Medical News.

University of London.—Advanced lectures in medicine have been arranged for the second term as follows: (1) A lecture on Apraxia: its Clinical and Localising Values, by Dr. S. A. Kinnier Wilson, at University College Hospital Medical School, at 4.30 p.m., on Thursday, Jan. 29th; (2) a lecture on the Action of Radium upon Animal Cells, by Dr. H. Beckton, at Middlesex Hospital, at 5 p.m., on Wednesday, March 4th; and (3) two lectures on the Pathological Excretion of Nitrogen by the Skin and the resulting Changes in the Urine, by Dr. H. L. Tidy, at the London Hospital, at 4.30 p.m., on Wednesdays, March 4th and 11th. The following lectures will be given during the third term: One lecture on Recent Observations on Ulcers of the Stomach, by Dr. Charles Bolton, at University College, and three lectures on Carbohydrate Metabolism in Health and in Diabetes, by Dr. H. MacLean, at St. Thomas's Hospital. The lectures are addressed to advanced students of the University and to others interested in the subjects dealt with, and admission will be free. A course of 12 lectures on the Protozoa Parasitic in Man will be given at the Lister Institute of Preventive Medicine, Chelsea, by Professor E. A. Minchin, professor of protozoology in the University, on Tuesdays and Fridays during the second term at 5 p.m., beginning on Tuesday, Jan. 27th. Each lecture will when possible be followed by exhibits of microscopic preparations illustrative of the subject of the lecture. Beginning on Jan. 15th a course of eight or nine University lectures on Anaphylaxis will be given free at King's College Department of Bacteriology, 62, Chandos-street, by Dr. L. Rajchman (Cracow), at 5 p.m.—A course of lectures and practical instruction on Physical Anthropology will be given in the department of anatomy of University College by Dr. D. E. Derry, lecturer in physical anthropology. The course will comprise one lecture and two meetings for practical work each week from Jan. 15th to March 20th. The following branches of the subject will be dealt with: Cranioscopy, craniometry, osteometry, anthropometry (on the living subject), estimation of stature, age, and sex from bones, comparison with higher mammals, especially the anthropoid apes, and race distribution and characteristics. The fee for the course is £2 2s.; to graduates and regular students of the University it is £1 1s. Applications should be made to the secretary, University College, London.

Donations and Bequests.—The Cancer Hospital, Fulham, will benefit under the will of the late Mr. T. Cuvelje by a sum of nearly £70,000. To the Surgical Aid Society the testator left £5000, and a like sum to the Royal Hospital for Incurables, Putney.—The late Miss E. M. Easton has left by will £10,000 to the Durham College of Medicine.—By the first distribution of the residue of the estate of the late Mrs. M. B. Swaine, £4600, St. George's Hospital will receive £1000, the Hastings and East Sussex Hospital and the Guest Hospital, Dudley, £250 each; and the Corbett Hospital, Stourbridge, the Royal Victoria Hospital, Folkestone, the Middlesex Hospital, Hospital for Women, Soho-square, the London Hospital, the Metropolitan Free Hospital, the Charing Cross Hospital, the Evelina Hospital, the Queen's Hospital for Women, and the Lock Hospital, £200 each.—The late Mr. Arthur Paton Matthewson, of Dundee, has left £250 to the Dundee Royal Infirmary, £250 to the Royal Victoria Hospital, Dundee, and £100 to the Dundee Sick Poor Nursing Society.—By will the late Mr. Leonard Dingley, of Bournemouth, left £1250 to Queen's Hospital, Birmingham, for the endowment of a "Leonard Dingley" bed.

Dr. Gustave Monod, M.D. Paris, M.R.C.P. Lond. (of Vichy), has been commissioned by the French Ministre de l'Instruction Publique to report on the organisation of post-graduate study in Great Britain and in the United States, and has arrived in London with that object.

A Medical Magistrate.—Mr. John Wallis Gill, of St. Germans, has been placed on the commission of the peace for the county of Cornwall.

Royal Institute of Public Health.—A course of instruction in the Diagnosis and Treatment of Tuberculosis, for tuberculosis officers, school medical officers, and other medical practitioners, will begin on Friday, Jan. 16th. Lectures will be given by Dr. C. Addison, M.P., Dr. F. E. Fremantle, Dr. A. C. Inman, Mr. J. J. Perkins, Dr. T. N. Kelynack, Mr. Henry J. Gauvain, Dr. Cecil Wall, Dr. Clive Riviere, Dr. David J. Williamson, Dr. F. J. Wethered, and Dr. H. Owen West. Bacteriological demonstrations will be given in the laboratories of the Institute, and visits will be arranged to the tuberculosis dispensaries and sanatoriums. The lectures will be delivered at the Institute on Fridays at 5 p.m. All interested are invited to attend the first lecture on Friday, Jan. 16th, by Dr. Addison. An optional examination will be held at the close of the course, and certificates will be awarded to successful candidates. The fee for the course is 3 guineas. Further information may be obtained from the secretary, 37, Russell-square, London, W.C.

BOOKS, ETC., RECEIVED.

Appleton, D., and Company, New York and London.
  Manual of Obstetrics. By John Osborn Polak, M.Sc., M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital. Price 12s. 6d. net.
  Minor Medicine. A Treatise on the Nature and Treatment of Common Ailments. By Walter Essex Wynter, M.D., B.S. Lond., F.R.C.P., F.R.C.S., Physician to the Middlesex Hospital and Lecturer on Medicine in the Medical School. Second edition. Revised and enlarged. Price 6s. net.

Baillière, Tindall, and Cox, London.
  The Sensory and Motor Disorders of the Heart; their Nature and Treatment. By Alexander Morison, M.D., F.R.C.P., Senior Physician to the Great Northern Central Hospital. Price 7s. 6d. net.
  Diseases of Children. A Manual for Students and Practitioners. By John McCaw, M.D., R.U.I., L.R.C.P. Edin., &c., Senior Physician, Belfast Hospital for Sick Children. Price 10s. 6d. net.

Burroughs Wellcome and Co., London, New York, Montreal, Sydney, Cape Town, Milan, Shanghai, Buenos Aires, and Bombay.
  The 'Wellcome' Photographic Exposure Record and Diary. 1914. Northern Hemisphere and Tropics. Price 1s.

Churchill, J. and A., London.
  Materia Medica, Pharmacy, Pharmacology, and Therapeutics. By W. Hale White, M.D. Lond., M.D. Dub. (Hon.), Senior Physician to and Lecturer on Medicine at Guy's Hospital. Thirteenth edition. Price 6s. 6d. net.
  The Medical Directory, 1914. Seventieth Annual Issue. Price 15s. net.
  Year-Book of Pharmacy and Transactions of the British Pharmaceutical Conference, 1913. Editor of the Abstracts, J. O. Braithwaite. Editor of the Transactions, Reginald R. Bennett, B.Sc., F.I.C., Compiler of New Remedies Section, F. W. Gamble. Price not stated.

"Garden Life" Office, Hatton House, Great Queen's-street, London, W.C.
  The Amateur Gardener's Diary and Dictionary. 1914. Price, [illegible] paper cover, 1s.; cloth cover, 1s. 6d.

Griffin, Charles, and Co., Limited, Exeter-street, Strand, London, W.C.
  A Handbook of Hygiene. By A. M. Davies, M.R.C.S., L.S.A., D.P.H. Camb., Lieutenant-Colonel, R.A.M.C. (Retired); late Professor of Hygiene, Royal Army Medical College. Fourth edition. Revised and enlarged by A. M. Davies and C. H. Melville, M.B., C.M., D.P.H. (R.C.P. Lond.); Brevet-Colonel, R.A.M.C.; late Professor of Hygiene, Royal Army Medical College. Price 10s. 6d. net.

University Press, Cambridge. Cambridge University Press (C. F. Clay, Manager), Fetter-lane, London, E.C.
  The Cambridge Pocket Diary. 1913–1914. Prices, 1s. net, 2s. net, and 2s. 6d. net.
  The Cambridge Diary for the Academical year 1913–1914. Price 1s. net.

WILEY, JOHN, AND SONS, INC, New York CHAPMAN AND HALL, Limited, London

Handbook on Sanitation A Manual of Theoretical and Practical Sanitation By George M Price M D Third edition, rewritten and reset Total issue 6000 Price 6s 6d net

Quantitative Analysis by Electrolysis By Alexander Classen, with the Coöperation of H Cloeren Translated from the thoroughly revised Fifth German Edition, by William T Hall, Assistant Professor, Massachusetts Institute of Technology Price 10s 6d net

Outlines of Theoretical Chemistry By Frederick H Getman, Ph D (Johns Hopkins), Associate Professor of Chemistry in Bryn Mawr College First edition First Thousand Price 15s net

WORLD BOOK COMPANY, Yonkers on Hudson, New York

First Book of Health A Text boo [illegible] in the Lower Grades By Carl [illegible]

Th [illegible] A, M A, an [illegible]

WRIGHT, JOHN AND SONS, LIMITED Bristol SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED, London MACMILLAN COMPANY OF CANADA, LIMITED Toronto

The Biology of the Blood Cells With a Glossary of Hæmatological Terms For the Use of Practitioners of Medicine By O C Gruner, M D Lond Price 21s net

Appointments.

Succe[illegible] Public Institutions, [illegible] this column, are [illegible] ted to the Sub [illegible] morning of each [illegible]

BOWER, ERNEST DYKES, M D Durh, F R C S Edin, M R C S, L S A, has been appointed Honorary Consulting Surgeon to the [illegible]

BRO[illegible] nted Full [illegible]

FAY[illegible] Assistant [illegible]

[illegible] d House [illegible] e Bristol Royal Infirmary

JOHNSON, R B, L.R C P, M R C S, has been appointed Casualty Officer at the Bristol General Hospital

[illegible] appointed House Surgeon [illegible]

[illegible] F R C S Eng, has been [illegible]

W[illegible] Districts

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

ALNWICK INFIRMARY —House Surgeon, unmarried Salary £140 per annum, with board and apartments

ASHTON UNDER LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL —Assistant House Surgeon Salary £90 per annum, with board, [illegible]

[illegible] urgeon Salary [illegible]

[illegible] nwich —Second [illegible] with board and [illegible]

BIRMINGHAM, CITY OF —Female Assistant Medical Officer of Health for Infant Consultation Work &c Salary £250 per annum

BRADFORD ROYAL INFIRMARY —House Surgeon, unmarried Salary £100 per annum, with board, residence, and washing

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL —Assistant House Physician for six months Salary £100 per annum, with apart [illegible]

CHARING CROSS HOSPITAL —Medical Registrar

CHELTENHAM BOROUGH EDUCATION COMMITTEE —Assistant Medical Officer of Health and Assistant School Medical Officer Salary £250 per annum

CHESTER, COUNTY ASYLUM —Third Assistant Medical Officer, unmarried Salary £200 per annum, with board, lodging, and washing

C[illegible] LIMITED, Watergate House, York [illegible] Director of the Laboratories

[illegible] AL —House Physician Also [illegible] nnum in each case, with board, [illegible]

[illegible] ford, Kent—Third Assistant Medical Officer, unmarried Salary £180 per annum, with board, lodging, and washing

DARLINGTON, BOROUGH OF —Assistant Medical Officer of Health and Assistant School Medical Officer Salary £300 per annum

DERBY, DERBYSHIRE ROYAL INFIRMARY —Assistant House Surgeon for six months

DEWSBURY AND DISTRICT GENERAL INFIRMARY —House Surgeon Salary £12[illegible]

DOUGLAS ISLE [illegible] unmarried [illegible]

DUMFRIES A[illegible] Surgeon [illegible]

DUNDEE ROY[illegible] [illegible] ing, and washing

[illegible] EN AND DISPENSARY FOR WOMEN, [illegible] and Assistant Casualty Officer [illegible] of £75 per annum, with board, [illegible]

[illegible] LDREN, Southwark, S E —House [illegible] per annum, with board, residence, [illegible]

[illegible], 172, Shaftesbury avenue, W C — [illegible] r, unmarried Salary £60 per annum with board and laundry

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch —Junior Medical Officer Salary £200 per annum, with board, lodging, and laundry

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION —Surgeon

GREAT YARMOUTH HOSPITAL —House Surgeon, unmarried Salary £100 per annum, [illegible]

GUILDFORD, ROYAL [illegible] Salary £100 per a[illegible]

HELLINGLY, EAST SU[illegible] Officer, unmarrie[illegible] ments, washing, and attendance

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton —House Physician

HUNTINGDONSHIRE COUNTY COUNCIL —Female Assistant County Medical Officer and Assistant School Medical Officer. Salary £250 per annum

KING'S COLLEGE HOSPITAL, Denmark Hill S E —Assistant Physician for Diseases of Children Also Assistant Surgeon for Diseases of the Throat

LEEDS GENERAL INFIRMARY —Resident Aural Officer Salary £100 per annum with board, residence, and laundry

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL AND SANATORIUM FOR TUBERCULOSIS —Assistant Resident Medical Officer, unmarried. Salary £140 per annum, with board, washing, and lodging

LIVERPOOL EDUCATION COMMITTEE —Two School Medical Officers Salary at rate of £250 per annum

[illegible] ant Medical Officer [illegible]

[illegible] urgeon Salary £75 [illegible]

[illegible] washing, &c

[illegible] S SERVICE — [illegible] ary £180 per [illegible]

[illegible] Surgeon and [illegible] rate of £60 [illegible] ashing

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE [illegible] board, and washing

NORFOLK EDUCATION COMMITTEE —Assistant School Medical Officer Salary £350 per annum Also School Dentist Salary £250 per annum

NOTTINGHAM GENERAL DISPENSARY —Assistant Resident Surgeon, unmarried Salary £180 per annum, with apartments &c

NOTTS COUNTY COUNCIL RANSOM SANATORIUM, Sherwood Forest, Mansfield.—Resident Medical Officer Salary £100 per annum, with board, residence, and laundry

PERTH DISTRICT ASYLUM —Assistant Physician Salary £150 per annum and all found

PLYMOUTH INCORPORATION OF GUARDIANS WORKHOUSE AND INFIRMARY —Resident Assistant Medical Officer Salary £180 per annum, with apartments, rations, washing and attendance

Preston, County Asylum, Whittingham.—Assistant Medical Officer, unmarried. Salary £250, rising to £300, per annum, with board, apartments, and washing.

Reading, Royal Berkshire Hospital.—Honorary Physician.

Rochdale Infirmary.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

Rochester, St. Bartholomew's Hospital.—Resident House Physician for six months. Salary at rate of £110 per annum, with board, residence, and laundry.

Royal Eye Hospital, Southwark, S.E.—Senior and Junior House Surgeons for six months. Salaries £70 and £50 per annum respectively, with board and residence. Also Clinical Assistants.

Royal Ear Hospital, 42 and 43, Dean-street, London, W.—Clinical Assistants.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Honorary Laryngologist.

St. Thomas's Hospital.—Ophthalmic House Surgeon.

ensary.—Senior House Surgeon. rd, residence, &c.

Western Bank.—House Surgeon. h board and residence.

for Women.—Senior and Assistant House Surgeons, unmarried. Salaries £100 and £80 per annum respectively, with board, residence, and laundry.

Sunderland, County Borough of.—Tuberculosis Medical Officer. Salary £500 per annum.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, attendance, &c.

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—House Physician and House Surgeon for six months. Salary £40, with board, lodging, and laundry.

Warwick County Asylum, Hatton, near Warwick.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

West Ham and Eastern General Hospital.—Junior House Surgeon. Salary at rate of £75 per annum.

West Ham Union Sick Home, Forest-lane, Forest Gate.—Second Assistant Resident Medical Officer. Salary £140 per annum.

Westminster Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and residence. Also Medical Officer in Charge of Department of Bacterio-Therapeutics. Salary £100 per annum. Also Resident Obstetric Assistant for six months. Board provided.

Winchester, Royal Hampshire County Hospital.—House Physician. Salary £80 per annum.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, rations, and washing.

York County Hospital.—House Physician for six months. Salary at rate of £100 per annum, with board, residence, &c.

York Dispensary.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

*** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet.

Births, Marriages, and Deaths.

BIRTHS.

Bird.—On Jan. 6th, at Old Croft, Godalming, Surrey, the wife of Gerald F. Bird, M.B., of a son.

Fawkes.—On Jan. 3rd, at Church Hill, Midhurst, Sussex, the wife of Marmaduke Fawkes, M.B., B.S. Lond., M.R.C.S., L.R.C.P., of a daughter.

Leitch.—On Jan. 5th, at Overstr Park, to Dr. and Mrs. Archibald Leitch, a

O'Meara.—On Dec. 31st, 1913, the wife of Hubert O'Meara, M.B., B.S. Lond., of a son.

Pooler.—On Jan. 4th, at Strathray, Leigh-road, Westcliff-on-Sea, to Dr. and Mrs. J. Read Pooler, a daughter.

MARRIAGES.

Canney—Newton.—On Dec. 30th, 1913, at the Church of St. Mary the Great, Cambridge, James Robertson Campbell Canney, M.A., M.D., B.C. Cantab., to Violet, elder daughter of Arthur William Newton, H.M. Inspector of Schools, of Bowman's Lodge, Cambridge.

Hooker—Lloyd.—On Dec. 27th, 1913, at the British Episcopal Church, Foochow, China, Alfred Wyatt Hooker, M.B., B.S. Lond., to Maud Mary, only daughter of the Rev. and Mrs. Llewellyn Lloyd, C.M.S., Foochow, China.

DEATHS.

Hall.—On New Year's Day, at "Tresco," North Finchley, N., James Hall (father of Dr. J. Field Hall), in his 89th year.

Hall.—On Jan. 3rd, at Bankside, Mayfield, Sussex, very suddenly, Henry John Hall, M.R.C.S. Eng., L.R.C.P. Lond.

Hewlett.—On Jan. 7th, at 12, Colnette-road, Putney, S.W., after a long illness, Louise, the wife of R. Tanner Hewlett, M.D., F.R.C.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answer to Correspondents.

MEDICINE AND MISSIONS.

In the current number of *The East and the West* there is series of articles on missions in their various phases al over the world. The whole review is interesting, and th tone generally so liberal and tolerant that even the ur friendly critic of missions would find little to cavil a Mr. Henry Rundle writes on Medicine and Missions, an gives a comprehensive review of the work of Britis medical missions from the year 1703, when Genera Codrington left a portion of his West Indian estates t the Society for the Propagation of the Gospel, making pro vision that "a convenient number of professors an scholars be maintained there to study and practise physi and chirurgery as well as divinity." That was the beginning of a great and beneficent enterprise, and to-day th principle of this wise bequest has so far gained acceptanc that medical work is regarded as an indispensable part o the regular business of every missionary society. Th story of this development is told outline, and space is found for a of the work of many pioneers missionary effort. Especially noteworthy are the referenc to the really wonderful achievements of Dr. A. M. Pennel of Bannu, and Dr. Wilfred T. Grenfell, the devoted an heroic friend of the people of Labrador. Although th writer's whole-hearted sympathy with Christian missio is never concealed, he treats his subject frankly from th point of view of the doctor, and therein, to our thinking lie the chief value and interest of this contribution. T urge the importance of medical science as an adjunct missionary enterprise is perhaps superfluous at a tim when every missionary society is eagerly anxious develop that side of its work, but Mr. Rundle does mo than this when he shows that medical science has foun and may still find, its highest opportunities of scien in coöperation with the evangelistic efforts of Christia missions. Thus, perhaps unconsciously, the appeal of th paper is to the medical quite as much as to the missiona student.

KIKUYU.

This name, scarcely known to many a short while ago, has now sprung into striking prominence amongst Anglica Churchmen, Nonconformists, Roman Catholics, and others The name is said to be derived from Kuyu, a fig. Fig tree are very abundant in the country. The Akikuyu are the result of an inter-mixture of the Masai and the Bant Their numbers are estimated at a million. Kikuyu is the twenty-third Uganda railway station, 342 miles from the coast, at an altitude of 6700 feet. The country is a fertile wooded strip extending from the hog-backed mountain called Ngongo Bayas northwards to Kenia. The people are intelligent and industrious, and cultivate their plantations with great care. They are essentially agriculturists and cultivators, and lead a semi-settled life—that is to say, they burn a clearing in the forest, build a village, and cultivate for a few years. As soon as the soil shows any sign of exhaustion they move on, burn another clearing, and repeat the same process. They make good workmen under European or Indian surveillance, and do the greater part of the manual labour in the workshops of the Uganda railway. It was in 1849 that Dr. Ludwig Krapf, a missionary, who had been expelled from Abyssinia, discovered Mount Kenia. He worked with the Rev. John Rebmann, who also made discoveries. Further particulars will be found in "Drumkey's Year Book for East Africa." The name of a medicine man there is Mun-du-Mu-gu, which, according to Mr. A. W. McGregor, of the Church Missionary Society, means a "clever man." We discussed this matter and these interesting people in a long review in The Lancet of June 11th, 1910, p. 1621, of a book entitled "With a Prehistoric People: the Akikúyu of British East Africa," and our readers may wish to turn again to that volume in view of the topical importance of Kikuyu, which seems to have become a pivot of the world.

BABY No. 30.

Herr of Briesen, Western Prussia, and pon as pillars of the State tha d the holy state of matrimony. Their thirtieth child has just been born, and they have been honoured by the publication of their portraits in the *Daily Express*. We hope that all the 29 other children ar alive, for the family which produces the greatest numbe of babies comes second to the family which succeeds rearing the greatest number properly.

CONSUMPTIVES AND THE POST OFFICE.

WE have received a letter from Toronto, dated Dec. 17th, [illegible] bears a red two cent postage [illegible] head obliterated by the usual [illegible] tached thereto is a black frame [illegible] account of the Muskoka Sanatoriums for Tuberculosis.

THE CARE OF THE BABY AND THE SICK.

WE have had occasion previously to refer to some of the useful domestic series of pamphlets issued at the price of 1d each (or post free for 1½d.) by the Women's Industrial Council, 7, John street, Adelphi, W.C Two new ones are *How to Take Care of Baby*, by Selina F. Fox, M.D., B S., and *How to Take Care of the Sick at Home*, by W and S. Rintoul. Of the first we can cordially endorse the words of Dr. Eric Pritchard, who writes the preface, that its pages seem to contain exactly the right amount of information, neither too much nor too little Of the second, it may be said also that it gives just that kind of information that every householder ought to possess in regard to accidents and the care of the sick; for, as Sir Victor Horsley, who contributes a preface, says, "the personal combat cannot be warded off even by the possession of means to pay for skilled aid."——Mrs. Frank Stephens's penny booklet for mothers is in its 321st thousand. It is called *How to Rear a Baby*, and is published by Messrs. Horace Marshall and Son, London. It is full of good common sense, and at the same time also sound teaching, even if a little extreme in some points. The danger of abrading the delicate protective epithelium of the infant's mouth by the indiscriminate practice of so-called "mouth cleansing" has been several times referred to in our columns, and we certainly cannot approve of its recommendation in general terms (p. 27) without a single cautionary word.

A NURSING JOURNAL FOR SOUTH AFRICA.

THE first number [illegible] October, seems [illegible] task to which it [illegible] of the nursing [illegible] it in the bonds [illegible] it to a realisatic [illegible] tains varied material of interest to nurses, including articles on Operating Theatre Methods and their Evolution, by Mr. D'Arcy Power, F.R.C.S., and on Infant Feeding, by Dr. J. Bruce Bays, with nursing news, both local and general. It is to be published monthly at East London, price 10*s*. 6*d*. per annum, or 1*s*. a copy.

THE PARIS, LYONS, AND MEDITERRANEAN RAILWAY.

[illegible] Company have [illegible] atlas of their [illegible] and contain [illegible] h the system [illegible] in the Riviera, and in Savoy and Dauphiny. The atter section has coloured pl[illegible] f Napoleon crossing the Alps [illegible] luring the manœuvres of 1913 [illegible] oloured plates representing the battle of flowers in the Bay of Villefranche and the carnival at Nice Both ections can be obtained free from the offices of the ompany, 179, Piccadilly, London, W.

USEFUL diary, bound in red cloth and giving a clear page f 8 by 5 inches to a day, together with an alphabetical ndex at the end, will be sent free of cost to our readers n application to "Lactéol du Dr. Boucard," 9, Gamage Buildings, Holborn, London, E.C.

RATUM.—The Notes from Canada in THE LANCET of Nov. 29th, 1913, contained a mistake. Our correspondent stated that Dr John Stewart had recently been appointed professor of surgery in the Halifax Medical College It has been pointed out to us that the Halifax Medical College has been taken over by the University of Dalhousie, and he professor in surgery is Dr E. V. Hogan

MMUNICATIONS not noticed in our present issue will eceive attention in our next

A DIARY OF CONGRESSES.

e following Congresses, Conferences, and Exhibitions are announced n 1914 —

April 14th-18th (New York) —Fourth Congress of the International Surgical Society.

April 20th-23rd (Wiesbaden).—Thirty first German Congress for Internal Medicine.

May 1st-Nov. 1st (Lyons).—International Town Life Exhibition.

July 6th-11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.

,, 8th-13th (Edinburgh).—Congress of the Royal Institute of Public Health.

[illegible] gress

Sept. 7th-12th (Berne).—International Congress for Neurology. [illegible]

[illegible] Congress for Diseases [illegible]

(London).—Anglo-American Exhibition.

(Aberdeen) —Eighty second Annual Meeting of the British Medical Association

(Auckland, N Z).—Australasian Medical Congress

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY (Hon. Secretaries—J. Murray, Raymond Johnson): at 5 30 P.M.

Discussion:

On Nephropexy and its Results (opened by Mr. G. Percival Mills, and continued by Mr W. Billington, Mr. Leonard Gamgee, Mr J. W. Thomson Walker, Mr. J. Sherren, and others).

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E Dore): at 5 P M.

Cases:

Dr. J J Pringle: Xeroderma Pigmentosa under Treatment by [illegible]

FRIDAY.

SECTION OF OTOLOGY (Hon Secretaries—G. J. Jenkins, G. N. Biggs), at 5 P M

Communications and Cases:

By Dr. William Milligan, Dr J. C. Potter, Mr. G J. Jenkins, and others

SECTION OF ELECTRO THERAPEUTICS (Hon. Secretaries—Cecil R O Lyster, S Gilbert Scott), at St. Thomas's Hospital, S E. at 8 30 P.M

Inspection of Electrical Department and Demonstrations.

MEDICAL SOCIETY OF LONDON, 11, Chandos street, Cavendish-square, W.

MONDAY—8 30 P M. Discussion on the Pathology of Syphilis (opened by Dr W d Esté Emery) Followed by Mr. P. Fildes, Mr. J. E R McDonagh, Dr. J. McIntosh, and others.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth

WEDNESDAY.—8.30 P M, Discussion on the Sterilisation of Tuberculous Sputum (opened by Dr A. W F. Sayres)

HUNTERIAN SOCIETY, St Bartholomew's Hospital, E C

WEDNESDAY—9 P M, Lecture —Mr J. Cantlie: Recent Advances in Tropical Medicine (with lantern slide demonstration)

SOUTH WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S W

WEDNESDAY—9 P M, Dr T J Horder: The Causation and Treatment of the Rheumatoid Type of Multiple Arthritis.

ILLUMINATING ENGINEERING SOCIETY, House of the Royal Society of Arts, 18, John street, Adelphi, W C.

THURSDAY—8 P.M, Resumed Discussion of the paper read by Mr. P. J. Waldram at the last meeting on Some Problems in Daylight Illumination, with Special Reference to School Planning

WEST LONDON MEDICO CHIRURGICAL SOCIETY, West London Hospital, Hammersmith road, W.

FRIDAY—8 P M., Special Clinical Evening

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish square, W.

FRIDAY [illegible]

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Mr. A. C. Woodward: The Treatment of Fractures by Direct Extension of the Fragments.

TUESDAY.—4 P.M., Dr. F. G. Crookshank: Clinique (Medical). 5.15 P.M., Lecture:—Mr. E. M. Little: Boots and Shoes from Surgical and Historical Points of View.

WEDNESDAY.—4 P.M., Dr. E. M. Corner: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. H. L. Jones: Diathermy.

THURSDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. V. Z. Cope: The Pre-peritonitic Stage of Appendicitis.

FRIDAY.—4 P.M., Mr. H. Barwell: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Beddard: Acute Pulmonary Infections.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. [illegible] stration of Cases in Wards. [illegible] of Fractures, &c. 2 P.M., [illegible] Mr. Baldwin: Operations. [illegible] se, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Beddard: Acute Pulmonary Infections.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Acute Pulmonary Infections.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture.

FRIDAY.—10 A [illegible] 12.15 P.M., Lecture: [illegible] M., Medical and Su[illegible] dwin: Operations. Dr. Davis: [illegible] Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Beddard: Acute Pulmonary Infections.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operati[illegible] tion. 3.15 P.M., [illegible] Lecture:—Dr. C. [illegible] graphic and Sphygmomanometric Records.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., [illegible] Gillespie). 2.30 P.M., Medical [illegible] Nose, Throat, and Ear (Mr [illegible] In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. [illegible] (Dr. A. G. Auld); Surgical (Mr. [illegible] (Dr. A. E. Giles). X Rays an[illegible] X Ray Examination of the Che[illegible] *Medical In-patient* (Dr. A. J. W[illegible] Conjunctivitis, their Diagnosis a[illegible]

WEDNESDAY.—Clinics:—2 P.M., Th[illegible] 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods. 3 P.M., Medical In-patients (Dr. R. M. Leslie).

FRIDAY.—2.30 P.M., [illegible] edical Out-patient (Dr. A. G. Auld [illegible] e); Eye (Mr. R. P. Brooks). 3 P.M., [illegible] Chappel); Clinical Pathology and P[illegible]

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

MONDAY.—4.15 P.M., Dr. F. Warner: Study of Modes of Brain Actio

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospit Hackney-road, N.E.

WEDNESDAY.—4 P.M., Post-Graduate Lecture: Mr. S. Fenwic Spinal Caries.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leiceste square, W.C.

TUESDAY.—Mr. Hampson: X Ray Epilation for Ringworm.

THURSDAY.—6 P.M., Dr. M. Dockrell: Baldness—I., Bacillary. I Parasitic; III., Atrophic; IV., Inflammatory; V., System Intoxication.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of t Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officer Medical Practitioners, &c.:—

FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.- Lecture I:—Dr. C. Addison, M.P.: The Problem in Relation Insurance and Public Health.

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

MONDAY.—MANCHESTER CHILDREN'S HOSPITAL, Gartside-street.- 4.30 P.M., Dr. C. C. Heywood: Abdominal Tuberculosis Children.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Dr. Clifford Prolapse of Uterus and Vaginal Walls.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Mr. C. Roberts: T Diagnosis of Swellings in the Cervical Region.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Mr. W. R. Dougl Chronic Lesions of the Mouth.

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. H. H. McNabb Subjective Tests for Visual Acuity.

UNIVERSITY OF SHEFFIELD POST-GRADUATE CLINICAL DEMONSTRATIONS.

TUESDAY.—SHEFFIELD ROYAL HOSPITAL.—3 P.M., Mr. Mould: Borderland Mental Cases.

FRIDAY.—SHEFFIELD ROYAL HOSPITAL.—3 P.M., Dr. Naish: The Electro-Cardiograph.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given THE LANCET of Dec. 27th, 1913.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1913 will be dy shortly. Bound in cloth, gilt lettered, price 16*s.*, rriage extra.

Cases for binding the half-year's numbers are now ready. oth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 7th, 1914.

Date.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Remarks.
Jan. 1	30·55	N.	...	40	40	31	—	33	Overcast
" 2	30 48	W.	...	56	47	33	37	38	Overcast
" 3	30 45	N.W.	...	51	44	38	42	43	Cloudy
" 4	30 23	S W.	...	55	50	38	43	45	Cloudy
" 5	29 73	W.	0 04	47	47	44	46	47	Raining
" 6	29 62	W.	0 05	62	42	36	36	38	Cloudy
" 7	30·19	W.	...	45	38	34	32	34	Foggy

The following journals, magazines, &c., have been received :— Nineteenth Century and After, The East and the West, Proceedings of the Royal Society of Medicine, Quarterly Journal of Medicine, Man, British Journal of Dental Science, Schmidt's Jahrbücher, Public Health, Journal of the Royal Sanitary Institute, Annales de Gynécologie et d'Obstétrique, Revue de Gynécologie, Revue d'Hygiène, American Journal of Tropic l Diseases, Deutsche Zeitschrift fur Nervenheilkunde, St. Bartholomew's Hospital Journal, Journal of Laryngology, Rhinology, and Otology, British Journal of Children's Diseases, Homœopathic Recorder, Guy's Hospital Gazette, British Journal of Inebriety, Cleveland Medical Journal, Clinique Infantile, Science Progress, British Dental Journal, Medical Chronicle, &c.

Communications, Letters, &c., have been received from—

-Australian Book Co., Lond; essrs. Allen and Hanburys, ond.; Mr. F. Aldridge, Lond.; nglo-American Pharmaceutical o., Lond.; Admiralty, Medical epartment, Lond, Director-eneral of; *The American Practitoner*, New York.

-Mr. E A. Blomfield, Margate; r. W. Blair Bell, Liverpool; irmingham Corporation, Medical Officer of Health of; Dr. . E. Barnes, Jeram, F.M.S.; r. F. A. Brockhaus, Lond.; essrs. Butterworth and Co., ond.; Mr. W. P. Barsall, Sark; [illegible]

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-Dr. Martin F. Cusack, Lond.; r. Donald E. Core, Manchester; essrs. Cowie and Co., Lond.; Dr. W. A. Coventry, Duluth, U.S A.; County Education Office, Worthing, Secretary of; [illegible]

Messrs. J. and A. Churchill, Lond.; Mr. F. W. Clarke, [illegible]

[illegible] Co., Lond; Dorland Agency, Lond.; Derbyshire Royal Infirmary, Derby, Secretary of; Dr. Downer, Lond.; Messrs. W. [illegible]

E. [illegible] Edwards and Son, Lond; Ellis Health Food Co., Stockport.

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J.—Mr. H. A. Jeffery, Bradford; [illegible]

K [illegible]

L.—Mr. Hugh Lett, Lond.; Dr. [illegible] Motipari; Mr. H. K. Lewis, Lond.; Liverpool Stanley Hospital, Secretary of; Messrs. [illegible]

M.—Major C. Maddock, I.M.S., [illegible] Brighton; Medical Graduates' College and Polyclinic, Lond.,

[*Acknowledgments continued on next page.*

would afford a fact of value in estimating his prospects of life. It may be added that it often supplies a determining factor in judging of the necessity of antityphoid inoculation under particular circumstances.

VARIETIES OF POLICIES.

The last 30 years have seen the introduction of much variety in the form of assurance policies. Endowment assurance, the limited premiums policy, and the convertible term policy have all found their vogue; as has the double endowment form, sometimes granted without medical examination. These are, it is true, matters for the actuaries, but the head office physician needs to understand their bearing, that he may help his actuarial colleague. We have come gradually to learn the principles upon which the acceptance of second-class lives should be based. Extra risks may be divided broadly into three classes: those in which the risk is of an increasing character—for example, heart or kidney disease; those which are diminishing risks, especially tubercle; and lastly, those which apply continuously throughout the expectation period, such as occupation or climate. The form of rating to be chosen may depend upon the kind of extra risk, and it is often possible to select a description of policy which meets the risk involved, with the maximum of safety to the office and of convenience to the insurer.[10]

TUBERCULOSIS.

Two topics of surpassing interest confront us in looking forward. Tuberculosis and cancer together account for about 15 per cent. of the deaths of insured persons; and a more important fact is that many of these deaths occur in early adult or middle life. What people die from in old age has for us as insurance physicians little more than an academic interest, but the causes of premature death, these it is our business to study closely. How are these diseases going to affect our work in the future? For we ought to look forward. What we are doing to-day is to advise our offices how to estimate the risks, not so much of the present as of the future, and it is the results of the future which will justify our advice. Now, as to tuberculosis, we know that a great change has occurred; that the discovery of its living germ has given an immense impetus to the movement, which was already begun, for treating the disease on hygienic lines. Sanitation, notification, and sanatorium treatment, to which we may now add special dispensaries, health visiting, and probably the use of tuberculin, have acted (or will act) both by way of prevention and by way of cure. And the results are seen in the returns of deaths, for the mortality from phthisis has not only declined rapidly but at an accelerated rate. For adults over 25 years of age the death-rate is now about 40 per cent. lower than it was 30 years ago, and the fall has been greater in the case of women than in men.[11] If the present rate of decline continues for another 30 years, and there is a good prospect that it will do so, the old plague of consumption will wear a very different aspect in all civilised countries. This is a remarkable prospect. For insurance purposes it must be discounted a little, because the returns are for the whole community, and the insured classes have already been in the enjoyment of some of the advantages which are now extended to those who are poorer; it follows that they may not share to the full extent in the reduction of mortality. Yet evidence enough is left greatly to modify our outlook. In view, then, of the present lightening of the risk of phthisis and the prospect of its further reduction, we are surely justified in treating those proposers who show a liability to tubercle with less rigor than in the past. Researches which have been made during recent years into the family history of the disease, amongst which those of Dr. T. Glover Lyon and Mr. Manly[12] may be mentioned, have tended to discount its influence in increasing the risk, yet there are offices which still make a rule of imposing an extra rating upon all proposers who have lost a parent from phthisis. We may now, I think, regard a family history of tubercle as of little importance if the subject himself has good lungs and sound habits; we may accept many cases at tabular rates where the suspicion of liability rests on slight evidence; and we may be content with lower ratings where these are called for.

CANCER.

I pass on to speak of cancer. The past 30 years has seen the recorded mortality of this disease in England and Wales to rise in the case of males by 150 per cent., and in that of females by 60 per cent.,[13] and this despite the great advances in surgery, in sanitation, and in medical knowledge which have reduced the fatality of other diseases. Cancer now accounts for 1 in every 9 deaths among all adults of 25 years and upwards. In women between the ages of 40 and 60 years it accounts for 1 in every 5 deaths. He must be a bold man who would challenge the plain significance of these records, and still seek to explain away the apparent increase of cancer, large and continuous as it is, by the hypothesis of better diagnosis and certification. Just as we can look on tuberculosis as a diminishing cause of death in insured life so we must regard cancer as an increasing cause. We ought then, it seems to me, to scrutinise our methods of dealing with this risk, and especially to re-study the bearing of family history. The late Dr. J. F. Payne brought before this association in 1897[14] the results of his own studies, in a paper which was a model of dispassionate and balanced statement. His conclusions for the estimation of lives with a family history of cancer were pretty severe, and did not find full acceptance at the time, nor did Dr. W. S. Lazarus-Barlow and Dr. Gordon Taylor in their paper in 1905[15] take a like view. The subject needs further consideration now. As regards the insurance of women, the liability to malignant disease of the uterus and breast during the middle period of life has become so great that it is a question whether female lives in whose family histories there is a single such record amongst parents, brothers, or sisters should ever be taken without a rating. The increase of cancer dictates also special care in dealing with evidence of slight derangement of various organs, and especially of the digestive system, for it is in this tract that the increase of mortality has been most marked. This may be illustrated by an instance which came under my notice. A man, aged a little over 60, was examined, I was told, by one of our best physicians; he was tall and thin and had some dyspeptic symptoms, but was taken as a first class life for a large sum, spread over many offices He died within a year of cancer of the stomach

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[10] See Dr. T. D. Lister, Extra Risk, Ibid., 1900–1, p. 159; Dr. R. Hingston Fox, ibid., 1894–7, p. 69, and 1902–3, p. 27.

[11] Registrar-General's Report for England and Wales, 1910, lv.

[12] Journ[illegible], 1892.

[13] [illegible]

[14] Transactions of [illegible] licers Association, *1894–7, p. 247.*

[15] Ibid., 1904–5, p. 147.

Prospect of Lower Mortality

It would be interesting to pursue further our outlook into the future Besides tubercle and cancer there are other diseases which are changing Diabetes, for instance, is an increasing cause of death But when we regard, on the one hand, the steady advance in medical and hygienic knowledge, and on the other the fact of a lowered general death rate, we have warrant for looking forward to a lessened mortality among assured lives The companies naturally base their rates upon past experience, hence the improved results which we foresee will come to augment their bonuses, but in the meantime they may, perhaps, consider themselves justified in doing something to ease the rates of premium from time to time The O^m basis will need to give way to a new one as the office records of a realised lower mortality accumulate

Conclusion The Science of Prognosis

Time does not permit a full reference to accident insurance, which forms an important part of the scope of the association, and upon which valuable papers by Sir R J Collie, Sir T Oliver, Dr G G Howitt, Dr F Parkes Weber, and Mr D Knocker *will be found in the Transactions for 1908–09 and* 1910–11

The department of medicine which this association represents is not only one of practical utility in its aim, applying the medical art to the practice of life assurance, and thus safeguarding the welfare of men or of those dependent on them, but it has also a scientific value, and contributes to the whole purpose of medicine itself For it cultivates in the physician the art of prognosis, the habit of forecast—may I say the prophetic instinct? It casts a light upon symptoms and signs by which we may interpret them, not for the present but for the future It leads to the study of tendencies to disease as well as of disease itself, it should help us to understand types of constitution, temperaments, diatheses, and idiosyncrasies Which of us is not thankful for the experience it brings in the examination of the healthy as well as the sick? There is something, again, in the uncertainty of the results of all insurance operations that gives scope for the play of the imagination, and appeals, shall I say, to the sporting instincts that lie, whether hidden or obvious, in all human nature? But it is as honest work, good for the community, and grounded on scientific medicine, that the patient labours of the life assurance examiner may be commended They are given, no less than the other activities of our profession, to circumvent disease and death and to promote reason and order in the affairs of men

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National Hospital for Diseases of the Heart —On Jan 12th H R H Prince Arthur of Connaught accompanied by Princess Arthur, opened the new buildings in Westmoreland street of the National Hospital for Diseases of the Heart The opening ceremony was performed in the out patient hall the president of the hospital, Lord Verulam being in the chair Prince Arthur in his speech showed himself well acquainted with the work and history of the institution and with the constant effort which is needed in order to keep a special hospital abreast of modern discoveries He
(first devised I
sulting staff),

THE VALUE OF THE CARDIAC SIGN IN CANCER[1]

FIFTY CONSECUTIVE DIAGNOSES WITH 6 PER CENT OF ERROR

By WILLIAM GORDON, M D Cantab, F R C P Lond,
PHYSICIAN TO THE ROYAL DEVON AND EXETER HOSPITAL

My title is of the sort that needs an apology Its intention is simply to draw attention to a method, and I do not see how the point can be clearly put otherwise For, as the proof of the pudding is, after all, in the eating of it, so the test of a diagnostic method is in the use of it Possibly there are some who may think that 6 per cent of error is excessive, for myself, I must frankly confess I could not have avoided more mistakes without help The help has been the cardiac sign to which I have repeatedly drawn attention, and the table I submit will give some idea how much I have owed to it, at the same time indicating some of the limitations of its usefulness

Since Oct 1st, 1912, I have set down in easily accessible form every diagnosis of "cancer" and "not cancer," which I have made in *cases that were definitely doubtful when they were submitted to me*, and these diagnoses I have followed up, so far as has been possible, in order to discover how many *and what kind of mistakes I have been making* The cases I present in the accompanying table are those thus recorded, and are strictly consecutive, except for two lost sight of, three in which the end was inconclusive (although all three verified the prognosis given), and a few of which it is as yet premature to speak decisively

But just as a surgeon, by selection of only promising cases, can present a surprising percentage of successful operations, so a physician, by a system of extensive hedging, may attain remarkable success in such diagnoses as he risks I would therefore point out that in the period covered by this table I do not think I have set aside more than half a *dozen cases as uncertain, preferring rather* to hazard an opinion where reasonable grounds for making one existed, and so to test fairly the measure of help which my means of investigation afforded me

The diagnoses of "cancer" which have proved to be correct divide into three groups, viz (1) a group of 5 cases in which, for reasons given in the table, the cardiac sign was not available, (2) a group of six cases of visible or tangible cancers, where its help, though real, was of minor importance, and (3) a group of 11 cases of the difficult sort in which its assistance is so extremely valuable—cases of abdominal cancer where, short of operation, direct access *to the growth is impossible.* In the whole 17 cases in which the cardiac sign was available it was only absent in one

The diagnoses of "not cancer" are 25 in number. The verifications will, I think, be admitted to be sufficient In all but two of these the cardiac sign could be used, and is seen to have been present only once

Needless to remark, the sign was never the sole ground of an opinion, I would only emphasise its great usefulness as a help

To the details in the table I shall only add such brief notes as are necessary of the cases where a diagnosis of cancer has proved to be correct, and a

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[1] A paper read at a meeting of the Devon and Exeter Medico Chirurgical Society on Dec 12th 1913

Incorrect Diagnoses (3).

No.	Sex and age.	Lesion.	Diagnosis.	Presence or absence of cardiac sign.	Verification.
1	F., 59	?	Cancer of œsophagus.	Present.	P.M. No cause found for the dysphagia.
2	F., 72	Gall-stone.	Cancer of pancreas.	Absent (heart much enlarged).	Gall-stone passed. Disappearance of symptoms.
3	M., 34	Cancer of stomach.	Ulcer of stomach.	Absent.	Operation. Fragment removed and microscoped.

Correct Diagnosis as to—

(a) Presence of Malignant Disease (22).

No.	Sex and age.	Lesion.	Presence or absence of cardiac sign.	Verification.
4	M., 40	Carcinoma of pleura.	(Heart displaced.)	Skin nodule microscoped. P.M.
5	M., 53	Intrathoracic growth.	(Heart displaced.)	Case typical. Died. Chest punctured.
6	M., 52	Lymphosarcoma of lung and spine.	(Lung involved.)	P.M. Microscoped.
7	M., 42	Abdominal sarcoma.	(Heart displaced.)	Operation. Microscoped.
8	F., 57	" carcinoma.	(Old pleurisy.)	Operation. Skin nodules.
9	M., 51	Carcinoma of lip.	Present.	Microscoped.
10	M., 42	" " "	"	"
11	M., 57	" " tongue.	"	"
12	M., ?	" " floor of mouth.	"	"
13	M., 68	" " prostate.	"	Clinically unmistakable.
14	F., 65	" " rectum.	"	" "
15	F., 34	" " peritoneum. ? ovary.	"	Operation.
16	M., 56	" " pancreas and stomach.	"	Skin nodules microscoped. P.M.
17	M., 55	" " stomach.	"	Tumour. Occult blood. Died.
18	M., 63	" " "	"	Tumour. Died.
19	M., 60	" " "	"	" "
20	M., 57	" " "	"	Occult blood. Died.
21	M., 44	" " "	"	Tumour. Died.
22	M., 49	" " "	"	" "
23	M., 49	" " "	"	Operation.
24	M., 62	" " "	*Absent.*	Tumour. Died.
25	F., 55	" " "	Present.	Medical attendant thinks there is now no doubt.

(b) Absence of Malignant Disease (25).

No.	Sex and age.	Lesion.	Presence or absence of cardiac sign.	Verification.
26	M., 63	Probably duodenal ulcer.	Absent.	Recovery. Followed up for 6 months.
27	M., 57	" " "	"	" " " 13 "
28	M., 80	Gastritis.	"	" " " 14 "
29	F., 66	"	"	" " " 11 "
30	M., 42	"	"	" " " 9 "
31	M., 42	"	"	" " " 4 "
32	M., 61	"	"	Improved. " " 11 "
33	F., 40	Colitis.	"	" " " 12 "
34	M., 72	Colitis. Former cancer removed.	"	Recovered. " " 10 "
35	M., 50	Colitis.	"	" " " 5 "
36	F., 69	"	"	Improved. " " 5 "
37	F., 60	Gall-stones.	"	Operation.
38	M., 64	Intermittent hepatic fever.	"	"
39	M., 67	Recurrent appendicitis.	*Present.*	Recovery. Followed up for 10 months.
40	F., 50	Tuberculous peritonitis.	Absent.	Operation.
41	M., 59	Pernicious anæmia.	"	Died. Typical course.
42	F., 54	Splenic anæmia.	"	Operation.
43	F., 35	Refusal of food (melancholia).	"	Died. No evidence of cancer developed.
44	F., 40	Uterine fibroid.	"	Improved. Followed up for 5 months.
45	F., 55	Neurasthenia. Former cancer removed.	"	" " " 6 "
46	F., ?60	Neurasthenia.	"	" " " 14 "
47	M., 39	Gummatous liver, large and bossed.	"	Rapidly diminished on KI and Hg.
48	F., 55	Enlarged gall-bladder, gall-stones.	"	Operation.
49	M., 52	Gastritis.	(Aortic disease.)	Recovery. Followed up for over 12 months.
50	M., 46	Rheumatism of pelvic bones.	(Albumin.)	Improved. " " " 5 "

rather more detailed account of my mistakes, leaving wholly to the table, as sufficient, my references to the "non-cancerous" cases.

The first case of error seems to me to have presented almost insuperable difficulties; the post-mortem examination was made by a very good man, or I should have doubted the findings, and I am altogether at a loss to explain the symptoms.

The second mistake, I think, ought not to have been made. The cardiac dulness was against me for what it was worth, which, however was very little, since the heart was a large one; the history pointed to gall-stones (although such might very well have been a precursor of a growth), and the duration was very short. I fancy the daughter's death from cancer and the accounts of loss of flesh may have helped to put me off the track.

With the third mistake the case is different. Here I was in numerous and excellent company in error; for the difficulties were exceptional. But I had not had the mucus microscoped nor the vomit tested, which I clearly should have had; moreover, I think, the intractability of the disease and the sense of resistance over the pylorus and cardia should have outweighed the comparative youth of the patient, his non-cancerous appearance, and the absence of the cardiac sign.

To save space I shall allude to the recumbent cardiac dulness as the R.C.D. It goes without saying that the cases in which it has been recorded have no such invalidating accompaniments as I have explained elsewhere; where such were present (and the dulness is consequently not recorded) a note of them in brackets is added in the table. It has seemed best to omit all names in connexion with the cases.

THE CASES.

(a) *The Mistakes.*

CASE 1.—The patient, a married woman aged 59, had suffered for four months from dysphagia, with severe pain in the throat soon after swallowing, at the level of the top of the manubrium, and over the second dorsal vertebra. When solids were stopped the pain lessened, and got bad again when they were resumed. The thyroid seemed somewhat fixed, and was sometimes enlarged; occasionally she lost her voice, and now and then her breathing was whistling. There were small glands over the left clavicle. She hawked up strings of ropy mucus but no blood. The breath was offensive and the tongue coated. In the four months of illness she had lost a stone and a half. The abdominal skin was rather inelastic. The R.C.D. was 1$\frac{5}{8}$ inches wide. For two years she had been an invalid, with a high-tension pulse and retinal hæmorrhages. The urine was 1005, with a good trace of albumin; no sugar. Her sister had died from cancer. Post mortem no growth was discovered, nor, in fact, anything to account for the dysphagia.

CASE 2.—The patient, a married woman aged 72, was seen on July 13th, 1913. She had jaundice and a distended gall-bladder, which felt almost as large as a cricket-ball. The jaundice, which was considerable and increasing, had come on a few days previously with a good deal of abdominal pain, which persisted, chiefly in the right side. The tumour was clearly gall-bladder as the kidney could be felt behind it. There was slight shifting dulness in the flank. The abdominal skin was thin and rather inelastic. A tender swelling was palpable in the region of the pancreas. She had been losing a great deal of weight lately. Her daughter had died from cancer at the age of 40. Twenty years before she had had severe abdominal pain, but never jaundice, and the abdominal pain had often recurred since for about 12 hours at a time. Her heart was much enlarged with an apical systolic murmur conducted into the axilla; R.C.D. normal; in the erect position the dulness was much increased. She suffered periodically from heart failure and dilatation. A gall-stone was passed, the jaundice and tumour disappeared, and she is now, I understand, in her usual condition.

CASE 3.—The patient, a man aged 34, had been ill with vomiting for four months. During the first month this was only occasional in the evening, copious, but unattended by either pain or hæmorrhage. A dry diet made him worse and he began to vomit all day. He was then put to bed on milk only, which was peptonised later, and he improved for a short time. Afterwards he got worse still. Horse serum by the mouth aggravated the condition; washing out the stomach gave some temporary relief. He did not look like a cancer patient. The pulse and heart sounds were feeble, but seeing that he was vomiting almost all he swallowed that was not surprising. The R.C.D. was normal. He had, of course, lost flesh, but the skin had not the dry, inelastic feeling so common in advanced gastric cancer. The feet were not swollen. There were small palpable glands in both groins, but nowhere else. There was no family history of cancer. He had always been healthy, though easily made sick. The stomach, judging by its resonance, seemed considerably enlarged, reaching to the umbilicus; there was some resistance near the usual situation of the pylorus and a feeling of thickening about what seemed to be the middle of the organ. The liver and spleen were apparently normal. The vomit, on the day I saw him, was for the first time hæmorrhagic. It was full of mucus abundantly streaked with black altered blood. Remedies were discussed to bring him, if possible, into a better state for gastro-enterostomy. But a week latter matters had gone from bad to worse; he had had hæmorrhage badly and no food could be retained; the pulse was extremely feeble. An enema of calcium chloride, adrenalin, and tinctura opii was administered every six hours to check hæmorrhage and to help him to retain the nutrient enemata which had been rejected, and in two days, a slight rally having been secured, he was operated on as a last possible chance. The operation was well borne, but cancer was discovered.

The Other Cases.

CASE 4.—The patient, a man aged 40, had had pain in the left side with cough for two months, and when seen had dyspnœa and palpitation. Blood-stained fluid was drawn off in abundance from the left pleura several times. There was no sputum. The microscoping of a small subcutaneous nodule at once gave the diagnosis of carcinoma, which a post-mortem examination reaffirmed.

CASE 5.—The patient, a man aged 53, had been ill for a month with increasing dyspnœa, but with practically no pain, and with a subnormal temperature. The whole right side of the chest was dull, swollen, and rather puffy. The heart, however, was not displaced. There was stridor over the root of the left lung, weak voice and breath sounds over the dull area on the right, and vocal fremitus lost there. The left pulse was smaller than the right. There was considerable leucocytosis, the sputum contained suspicious looking cells, and some scanty serous blood-stained fluid, obtained from puncture of the dull side, showed large grouped granular and vacuolated cells. He was evidently *in extremis*, and died in the following night.

CASE 6.—The patient, a man aged 52, seemed a rather acute and feeble case of emphysema, until spinal symptoms developed which made the diagnosis a fairly simple matter.

CASE 7.—This was a case of round-celled sarcoma in the abdomen presenting no difficulty, and the diagnosis was confirmed by operation.

CASE 8.—The patient, an unmarried woman aged 57, presented a very curious and puzzling course, beginning as a pleurisy and going on, after an interval of two months, in which she greatly regained flesh and strength, to abdominal pain and distension. She had a large fluctuating swelling in the left lower part of the abdomen, a number of subcutaneous nodules, and a hard enlarged gland over the left clavicle. She afterwards developed two patches of secondary growth in the vagina. Operation confirmed the diagnosis of cancer.

CASES 9, 10, 11, 12, 13, and 14 call for no special comment.

CASE 15.—The patient, a married woman aged 34, had a large right ovarian cyst removed on Jan. 9th, 1913, as well as a small cyst from the left ovary, that ovary, however, being left; no malignancy was then evident. I saw her in July. Since the operation there had been soreness in the left groin; she had not lost flesh, colour, or appetite; her pulse was good. A large elastic tumour occupied the left lower quadrant of the abdomen; the spleen was enlarged, descending about two finger-breadths below the ribs. The R.C.D. was only 1½ inches wide. Operation showed an inoperable cancerous mass with matted intestines. The enlargement of the spleen remained unexplained.

CASE 16.—The patient was a man aged 56. This case is of considerable interest, as his condition had been variously diagnosed. He had been suffering from abdominal pain and had attacks of constipation lasting three weeks at a time, so that a suspicion of sigmoid carcinoma had arisen. The sigmoidoscope, however, revealed nothing. Three weeks before I saw him he became feebler and had gastric pain after food, anorexia, and frequent vomiting, but no hæmatemesis. He was pale and had lost flesh. The motions presented no peculiarities. His R.C.D. was 1¼ inches wide, but in the erect position the cardiac dulness was 6 inches wide. Two very small subcutaneous nodules less than an eighth of an inch in diameter were found. I diagnosed cancer, but was uncertain of its site, and had a nodule removed and examined.

CASE 17.—The patient, a man aged 55, had been losing weight for a year, and suffered from gnawing pain, severe at times, especially after food. There was an epigastric tumour and the stomach contents showed absence of free HCl and the fæces contained occult blood. The cardiac sign was present.

CASE 18.—The patient, a man aged 53, had for five months had indigestion and occasional vomiting, but never hæmatemesis. He had anorexia, flatulence, and great weakness. The skin seemed to have darkened somewhat, and a suspicion of Addison's disease existed. A hard nodular tumour could be felt coming down from under the left ribs. His weight had fallen in the five months from 12 st. to 9 st. 4 lb. The pulse was 96, of low tension. The R.C.D. was only ⅞ in. across. I could not satisfy myself that the skin darkening was more than such as can occur in cancer cases (although it is possible secondary deposits existed in the suprarenals); he was naturally very dark. The case went rapidly downhill. No post-mortem examination was obtainable, but before death the growth had become still larger.

CASE 19.—The patient, a man aged 60, had only complained for eight weeks of indigestion and anorexia. He had lost about a stone, he thought. A slowly increasing and now large nodular, not tender, tumour, apparently in the lesser curve of the stomach and spreading over its anterior wall, was found; a hard nodule was felt in the umbilicus, and the liver was enlarged. In spite of a rather tense pulse and slight albuminuria the R.C.D. was only 1½ inches wide. No post-mortem examination was obtainable, but his medical attendant considers from subsequent observation that the case was as we diagnosed it.

CASE 20.—The patient, a man aged 57, had epigastric pain, vomiting, and occult blood in the stools. The R.C.D. was 1⅛ inches across. Death was returned as cancer of the stomach.

CASE 21.—The patient was a man aged 44. There had been very rapid wasting for three or four months and terrible pain. The vomit was slightly blood streaked. A very tender tumour in the pyloric region was found. The R.C.D. was 1⅜ inch wide. The patient died. His medical attendant had no doubt of cancer.

CASE 22.—The patient was a man aged 49. A tender tumour occupied the site of the whole stomach. He was emaciated, very pale, and feeble. There was much continuous pain, which food scarcely affected; also constant sickness which momentarily relieved the pain. The tongue was fairly clean. There was practically no cardiac dulness. At death no doubt of the diagnosis was felt by his medical man.

CASE 23.—The patient was a man aged 49. Epigastric pain had lasted four months, and had become practically constant with severe exacerbations caused by solids. His weight had fallen from 13 st. to 9 st. 8½ lb. (in a single week 5½ lb.). A tender, hard nodular tumour was palpable in the pyloric region. The abdominal skin was thin and inelastic. The R.C.D. was only ⅞ inch. The pulse and heart sounds were feeble.

CASE 24.—The patient, a man aged 62, had been losing flesh for several months, had a well-marked tumour, nodular, and rather fixed in the epigastric region, and for three or four months had had pain and anorexia, but very little sickness and no hæmatemesis. The tongue was clean. The R.C.D. was 2¼ inches wide (*so cardiac sign absent*). Both ankles had swollen. The urine was normal. Subsequent course confirmed the diagnosis.

CASE 25.—The patient, a married woman aged 55, was seen on Sept. 30th, 1913, for epigastric pain immediately after food. There was much vomiting with a great deal of mucus and great loss of flesh. The tongue was slightly furred. A tumour was felt in the situation of the spleen. There was slight leucocytosis. The R.C.D. was 1½ inches wide. The pulse was very small and weak. Her medical man writes that he thinks there can now be no doubt the case is one of cancer.

Exeter.

THE
EARLY DIAGNOSIS AND TREATMENT OF RUPTURED INTESTINE.*

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TRAUMATIC rupture of the intestine without any wound of the abdominal wall, though not frequent, is sufficiently common to call for some definiteness as to the surest guides for early diagnosis and the best methods of treatment.

Symptoms and Diagnosis.

When the intestine is ruptured as the result of a blow on or crush of the abdomen the symptoms can be considered as due to the supervention of shock, the occurrence of peritonitis, or the presence of gas or fluid in the peritoneal cavity. Different authors have laid stress upon various groups of symptoms; but in the early diagnosis it must be remembered that the picture varies greatly, and scarcely any one symptom, with the probable exception of pain, is constantly present.

Berry and Giuseppi, in their classical article, enumerate the symptoms in the order of their relative frequency as pain, vomiting, shock, local tenderness, rigidity, distension, added dulness, rising pulse, diminished liver dulness, and occasionally melæna and emphysema. To their list might be added marked restlessness, persistent superficial respiration, and pain on deep breathing.

The symptoms of shock are frequently absent in the early stages of ruptured intestine, and are often present in abdominal contusions and injuries in which the intestine is uninjured; moreover, as most surgeons wait for the subsidence of initial shock before operating in any but the most obviously urgent cases, its presence is not of such great value in early diagnosis. Curtis has pointed out that there are occasional cases in which the shock caused by the accident passes rapidly or slowly into a collapse which lasts until death. I have seen such a case in which other injuries entirely masked the symptoms of intestinal injury. It is probable that most of such cases would terminate fatally, whether operation were undertaken or not, and it would be impossible to lay down any definite rules for guidance in their treatment.

The majority of cases have to be diagnosed by the symptoms of peritonitis, of rapid or delayed onset. The main difficulty lies when the onset is delayed or masked. The early symptoms of peritonitis may be extremely equivocal. T onset is often delayed after rupture of the intestine because the intestinal paresis caused by the injury inhibits peristalsis and allows time for the exudation of plastic lymph which seals the opening; abstention from food also aids the limitation of peristalsis. Then when local shock is recovered from or food is taken, peristalsis of the affected coil commences and serious leakage occurs.

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* Being an abstract of a paper read before the Surgical Sect Royal Society of Medicine, on Dec. 9th, 1913.

Rigidity of the muscles of the abdominal wall is a valuable symptom if it persists for more than a few hours after the accident; the rigidity may be localised to a limited area of the parietes. The rigidity which results from simple contusion of the muscles tends to pass off within a few hours. Rigidity may also occur in cases of injuries to the solid viscera, in retroperitoneal hæmatomata, and in injuries to the lower part of the thorax. On the other hand, rigidity may be altogether absent in the presence of ruptured gut, as in a case in St. Mary's Hospital three years ago.

The pulse and temperature are not reliable guides in the early stages. In one case under my care the pulse was 80 and of good volume nearly 20 hours after the accident; in the other it kept at 70 for some 10 hours after. The temperature may be normal or subnormal at first, but tends to rise as peritonitis extends. But whilst pulse and temperature are of little help when normal, they are of considerable importance when above the normal. A gradual increase in the pulse hour by hour in the absence of signs of hæmorrhage is very suggestive; and Battle has called attention to the importance of an elevation of temperature. At the same time, to wait until the pulse or temperature rises to any onsiderable extent is like waiting until the house s well alight before trying to extinguish the ames.

Pain, when continuous and increasing in severity, s the most reliable symptom. In very few cases s it absent, and then there is usually some other efinite symptom. Pain is demonstrated in four ways. *First, the expression may be anxious and* obviously significant of pain; secondly, pain is complained of at the site of the lesion; it is coninuous, but has exacerbations. It may gradually extend or definitely shift in position. This shifting s of more value in cases of injury to the gut situated in the epigastrium; in both my patients with ruptured jejunum the maximum pain shifted rom the upper to the lower abdomen. Thirdly, pain when not complained of may be evoked by deep pressure over the site of the lesion; this deep palpation is only possible when there is little or no rigidity, but if the latter be present there is usually tenderness on light pressure. Fourthly, in many *cases the pelvic peritoneum as felt* by rectal examination is painful to pressure; this is due to the pelvic peritonitis which follows early in hypogastric injuries, later when the upper abdomen is the site of the lesion. Abdominal pain, then, followng an injury such as might conceivably cause a rupture of the intestine, and continuing for some hours with some extension of the area affected, or some definite shifting pelvicwards of the pain, is the most important symptom.

Vomiting is a frequent and important symptom, and if conjoined with pain is quite suggestive enough to justify operation. The vomiting of bilious material is said to be especially *gnificant* (Tschistosserdoff).

Distension usually signifies extensive peritonitis, and is a symptom which should not be waited for. A misleading exception to this statement *is the occurrence of what has been termed* "primary meteorism." Tschistosserdoff states that this is probably due to injury to the retroperitoneal nerve plexus. It affects chiefly the upper part of the abdomen, and as a rule comes on one or two hours after the injury. It is said that other symptoms indicating rupture are usually absent where primary meteorism occurs.

Diminution or absence of the liver dulness is a symptom which ought never to be waited for, but I do not think a hopeless prognosis should be given simply because that symptom is present. Gas escaping from the upper jejunum would soon pass in front of the liver, though frequently there is but little gas in the bowel. One of my successful cases had the liver dulness obliterated.

Edington has called special attention to the restlessness which may be one of the earliest indications of serious intestinal injury, but it is unlikely that this would be present without more definite symptoms; moreover, restlessness is often a marked feature of intraperitoneal hæmorrhage.

Superficial respiration is the natural consequence of commencing peritonitis because of the pain which ensues if a deep breath be taken; it would be unlikely to be present without abdominal pain and rigidity. The signs of free fluid are not, as a rule, present in the early period, for it is exceptional for free escape of fluid bowel contents to occur at first, and the fluid due to peritonitic exudation collects later and tends to accumulate in the pelvis, where there is difficulty in demonstrating its presence.

Providing there be no lesion in the chest and that renal trauma is excluded I would submit that it would be advisable to open the abdomen on the suspicion of ruptured intestine if the following conditions be present: (1) When severe abdominal pain persists for more than about six hours after an injury, if the pain be accompanied by either (*a*) vomiting, especially bilious vomiting; or (*b*) a pulse gradually rising from the normal; or (*c*) persistent local rigidity tending to extend; or (*d*) deep local tenderness with shallow respiration; and (2) when abdominal pain is absent or only slight, but the pulse rises steadily hour by hour and the patient is very restless or listless. When marked diminution of the liver dulness occurs with any of the above symptoms, or if there be signs of free fluid in the abdomen, the indications for operation would be imperative.

Treatment.

Since the memorable case of Croft in 1889 the recognised treatment of ruptured intestine has been by operation. Various methods of closing the rent have been adopted, but it is agreed that the best plan is to suture it if possible. If the tear be too large for successful suture without narrowing the lumen of the bowel dangerously a lateral anastomosis may be done; whilst in many cases resection of the affected part is clearly required. If the duodeno-jejunal junction be the part affected a gastro-jejunostomy should be performed.

The site of the incision should be near the middle line in the epigastrium or hypogastrium, according to the position of the injury or physical signs. The injured gut is readily indicated by the gluing together of the neighbouring coils. The usual procedures for protecting the abdominal wall and the rest of the abdominal cavity should be adopted.

The main points of difference between surgeons

Is the classificatory system of relationships, after all, more logical than our own? Is there really a wide physical difference between the relationship of cousins who are offspring of a brother and sister respectively and that of cousins whose parents respectively are two brothers or two sisters? Ought marriage in the one case to be allowed or even encouraged, and in the other case as rigidly forbidden as if it were incestuous?

With a view to ascertaining whether this classification of consanguineous marriages is really important, I collected recently statistics relating to 68 marriages of first cousins, and I propose to give here a short analysis of their study. I take this opportunity to thank those gentlemen who, in response to a request published in THE LANCET and *British Medical Journal*, kindly sent me information from various parts of the United Kingdom, France, Germany, China, and Portugal. The material at my disposal comprises 61 families, of which 57 showed one consanguineous marriage each, 2 showed two such marriages each, 1 showed three and 1 four. The total number of cousin marriages thus represented was 68, of which 33 were concubitant and 35 were tabu. Following Thomson's method of showing relative fecundity and relative vitality—

33 concubitant couples had 165 children, of whom 146 survived and 11 died.

35 tabu couples had 137 children, of whom 108 survived and 29 died.

These results correspond fairly closely with those of Thomson. At first sight it would appear from both investigations that concubitant marriages are greatly superior, but when the averages are taken the difference is not anything like so marked.

Average Fecundity and Vitality.

Thomson's Cases.

133 concubitant couples averaged 3·29 children, of whom 1·74 survived and 1·54 died.

55 tabu couples averaged 3·05 children, of whom 1·30 survived and 1·74 died.

Author's Cases.

33 concubitant couples averaged 5·00 children, of whom 4·42 survived and 0·33 died.

35 tabu couples averaged 3·62 children, of whom 3·08 survived and 0·82 died.

It will be noted that the averages of the two sets of examples correspond, but that any superiority of fecundity is accentuated in my own figures. The greater vitality shown in both concubitant and tabu families in the latter examples is probably due to the fact that my figures relate entirely to civilised peoples, which presupposes greater care of offspring, whilst Thomson deals only with a savage race. Moreover, consanguineous marriages amongst civilised peoples being contracted without any reference to concubitancy or the reverse, care of offspring would not be likely to be greater in one more than the other.

As regards the influence of concubitancy as a factor of importance in the occurrence of deaf-birth, the evidence afforded by my cases is inconclusive. Of the 68 first cousin marriages, 26 showed deaf-birth, of whom 15 were concubitant and 11 tabu. Reliable evidence of deaf-birth in other generations or in collateral branches was obtainable in only two instances (both concubitant). Of the remainder, most of the deaf-births were probably sporadic; some may have been really cases of early acquired deafness from such causes as meningitis, syphilis, &c. Syphilis, too, may have accounted for a proportion of those born deaf. Except in the two examples mentioned, the hereditary nature of the deafness was, therefore, extremely doubtful. Analysis of the cases gives the following results:—

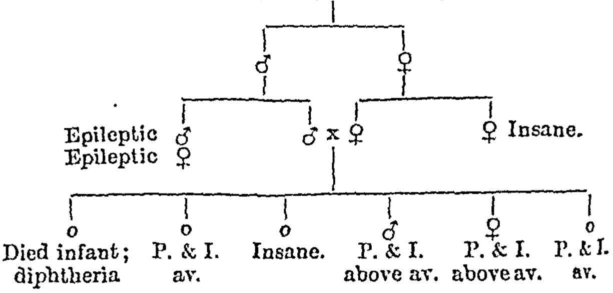
15 concubitant couples had 83 children, of whom 71 survived and 22 were deaf. Averages: 5·53 children, of whom 4·73 survived and 1·46 were deaf.

11 tabu couples had 48 children, of whom 38 survived and 15 were deaf. Averages: 4·36 children, of whom 3·45 survived and 1·36 were deaf.

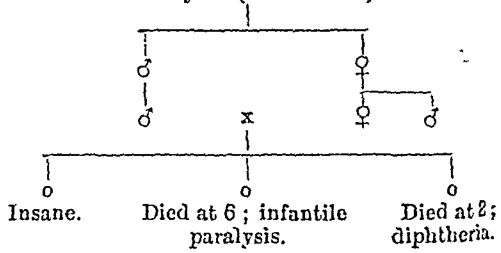
The concubitants therefore showed a greater proportion of deaf-births. The results are, however, of very little value in determining the influence of concubitancy as a factor influencing the production of deafness in consanguineous marriages. It is already well known that consanguineous marriages of the *hereditarily deaf* produce a greater proportion of deaf-births than do those in which the parents are not related.

From these results and from an examination of the family trees of my 68 first cousin marriages, I am inclined to the opinion that concubitancy or the reverse is of little influence, and that the results of such marriages is largely a question of *stock*. I have selected eight examples to illustrate this conclusion. (In these trees P. = physique; I. = intelligence; av. = average.)

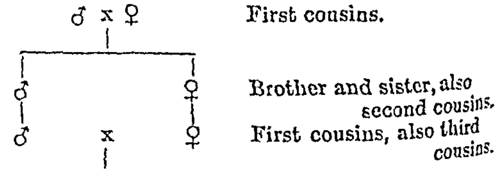
Family A. (Concubitant).



Family B. (Concubitant).

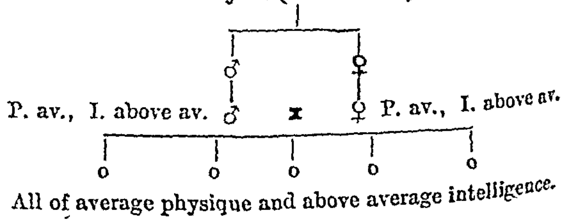


Family C. (Concubitant).


♂ x ♀ First cousins.
♂
♀
Brother and sister, also second cousins.
♂ x ♀
First cousins, also third cousins.
o
o
o

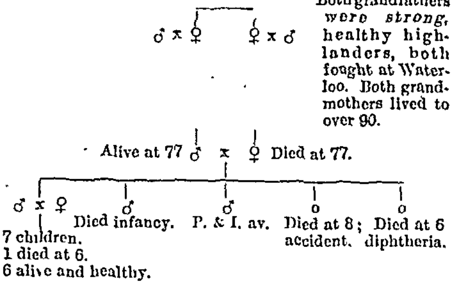
A family all of whose members are notable for physical beauty. They are tall, well-developed, normal people, without a trace amongst them of neurosis or degeneracy.

Family D. (Concubitant).



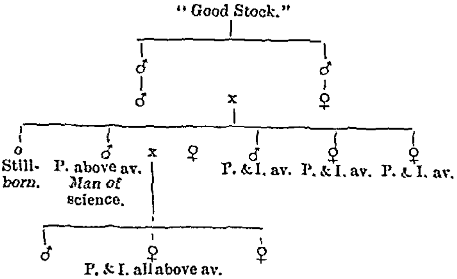
All of average physique and above average intelligence.

Family E. (Tabu).

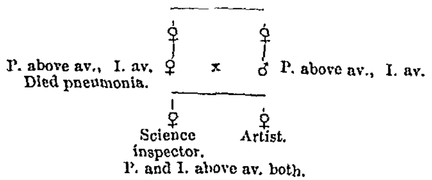


Both grandfathers were *strong*, healthy highlanders, both fought at Waterloo. Both grandmothers lived to over 90.

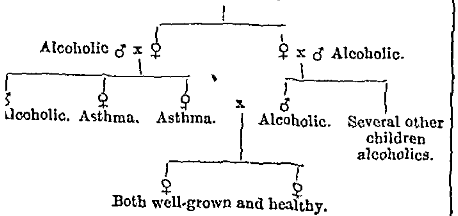
Family F (Tabu).



Family G. (Tabu)


♀
♀
P. above av., I. av. Died pneumonia. ♀
x
♂ P. above av., I. av.
♀ Science inspector.
♀ Artist.
P. and I. above av. both.

Family H (Tabu).



These eight examples show instances of good and bad stock in both concubitant and tabu families, and *suggest that quality of stock is all-important.* Arguing upon Mendelian lines, if the stock is good and free from taint of hereditary deafness, there is no reason why the offspring of a consanguineous marriage should show deafness, because that character (shown by Kerr Love to be recessive) is not present; whereas, if deafness should happen to be present as a family taint, the union of two blood relations, both of whom may carry—although they may themselves be hearing—the recessive character in their germ cells, would be likely to accentuate it, and recessive offspring would occur with a frequency which would follow the Mendelian hypothesis. That is to say, they would act as "impure dominants," *giving rise to three dominants to one recessive*, of which the recessives would breed true and of the three dominants two would be impure.

Queen Anne-street, W.

RECURRENT INTUSSUSCEPTION:

THE RECORD OF A CASE WHICH WAS OPERATED UPON THREE TIMES.

BY G. GREY TURNER, M.S. DURH., F.R.C.S. ENG.,
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I HAVE been prompted to record the following cases as the result of reading an annotation on the subject in THE LANCET of Dec. 20th, 1913.

The patient (Reg. No. 1040) first came under my care at the Royal Infirmary on June 13th, 1907, being at that time 8 months old. On the day preceding admission the baby vomited and was rather restless during the night. About 4 A.M. he awakened suddenly, and the mother thought he looked very pale and ill. The bowels were moved, and blood was noticed on the napkin. From this time the child kept tossing about and crying. At 11 A.M. a medical man saw the patient and, finding an intussusception per rectum, sent the child straight into hospital, where I operated at 1 P.M. The invagination extended from the ileo-cæcal valve to the rectum; the appendix was not involved, so that it was of the ileo-colic variety. Reduction was effected by manipulation, but to complete the process it was necessary to bring the involved bowel outside the abdomen. The lower end of the ileum was found to be much thickened, and there was a very definite indentation at one point, while the glands in the mesentery were enlarged. The child made an uninterrupted recovery, and in July was seen and found to be perfectly well in every way.

On Oct. 8th of the same year the child was again admitted with a recurrence of the intussusception. He had been very well until the day of admission at 3 P.M., when he had an attack of abdominal pain and passed blood per rectum. When seen the patient was found to be in good condition, but was evidently uneasy in the abdomen, and a mass could be felt in the epigastrium, but there was nothing per rectum. At 9 P.M. I opened the abdomen through the old incision. The intussusception was of the same variety as before, the ileum entering the large bowel as far as the middle of the transverse colon. This time reduction was very easy. The lower two inches of the ileum were very much congested and thickened, and felt almost as though there might be a polypoid growth inside. The bowel was opened at this point, and a small portion removed for microscopic examination; there was no polypus, but the wall was much thickened. At the same time an enlarged gland was removed from the mesentery. Under the microscope both gland and bowel only showed evidences of inflammatory œdema and congestion, but neither was stained for the tubercle bacillus. In the hope of preventing a recurrence of the invagination the lower four inches of the ileum was stitched closely to the cæcum in front of the mesentery, interrupted suture of fine chromicised catgut being used. The abdomen was closed

tion, this patient was again admitted with a recurrence of his previous symptoms. Since the last operation he had kept very well until noon of the day before admission, when the mother noticed that the child held the abdomen as if in pain, but did not vomit. The bowels were moved naturally, and he passed a good night. All went well until about two hours before admission, when he passed blood and vomited, and from that time there had been continuous straining and further vomiting. When admitted the patient was found to be a big, fat, strong-looking boy in good condition. A mass typical of intussusception was felt in the abdomen, but nothing per rectum. For the third time the abdomen was *opened* by an incision through the old scar. The intussusception extended from the ileo-cæcal valve to the middle of the transverse colon, and was easily reduced. The suture of the ileum to the cæcum had not held firmly, though there were long flimsy adhesions between the two. There were two or three undoubted tuberculous ulcers in the ileum, with tubercles on the peritoneum over their site; and one of these, that nearest to the ileo-cæcal valve where the bowel had been previously incised, had formed the apex of the intussusception, as it was very much indented in the centre and much thickened. There was also a large mass of tuberculous glands in the mesentery of the lower ileum. In order to short-circuit the affected intestine, and also to provide against recurrence if possible, a lateral anastomosis by direct suture was made between the ileum above the ulcers—i.e., 18 inches from the cæcum—and the transverse colon. The abdomen was again closed with through-and-through silkworm gut, and recovery was without incident.

In the light of the above findings the gland and piece of bowel removed at the second operation were re-examined, but there were no appearances that might fairly be interpreted as being due to tubercle.

In June of 1913 the mother brought the patient to the hospital at my request. He was then a well-nourished, healthy boy between 6 and 7, and had never had a bad symptom since the last operation. The bowels acted regularly, and the abdominal scar was very strong.

The case is a good example of a recurring intussusception, which is a rare condition, though I see no reason why it should be so. For me the especial interest is in connexion with the causation of intussusception. Most operators have noted the thickened, indented area in the last few inches of the ileum. I have often thought that this area probably represented an early tuberculous invasion of the bowel wall, and in several cases I have also observed the presence of tuberculous glands in the mesentery. In the case under discussion the condition at the second operation strongly suggested tubercle, and the findings at the third operation left no doubt as to the tuberculous factor in this particular case.

If an early intestinal tuberculosis is commonly the cause of intussusception it may also explain the infrequence of recurrence, because of the well-known influence of laparotomy on abdominal tubercle. Why the disease should have steadily progressed in this case I do not know.

In another case there was evidently a recurrent intussusception which underwent "spontaneous reduction," a rare event of which I have previously recorded an example.[1]

The patient (Reg. No. 2872), aged 7 months, was admitted to the infirmary on April 20th, 1910. There had been a sudden attack of screaming and kicking at 10 A.M., and at 2 P.M. vomiting commenced and had been continuous since. Castor oil was given at 3 P.M., and at 4 P.M. blood and mucus were passed per anum. On admission at 8 P.M. the child looked in good condition, but was having an attack of pain. A sausage-shaped tumour, which hardened and relaxed, could easily be felt in the left iliac region. I operated at once, the abdomen being opened by a median incision below the umbilicus. The intussusception extended from the ileo-cæcal valve to the rectum; it was of the ileo-cæcal and ileo-colic variety. The indentation of its commencement was in the anterior surface of the cæcum, and not in the ileum. The invagination was easily reduced. The abdominal wall was closed with through-and-through silkworm gut sutures, and the patient made a good recovery.

This child was readmitted on July 28th, 1911, apparently with a recurrence of the intussusception. He had been seen by Dr. E. D. Smith, of Swalwell, one of our old house surgeons, who sent him into hospital with the following note: "This child has had diarrhœa for the last two days. To-day he was playing in a field, but came home at 2 o'clock vomiting, and when he was taken up his legs were covered with blood. I saw him at 2.45, and on examination the entering layer of bowel is found protruding from the anus. I was easily able to pass my finger up the anus between the outer layer and the entering layer of bowel. On examining the abdomen I can feel no lump, probably owing to the child resisting."

On admission the child looked in good condition; temperature 98° F., pulse 118; he had not vomited for two hours. There was then no bowel protruding from the anus, and no definite tumour to be felt abdominally, but per rectum a cone of bowel could be felt, the finger passing into its summit as though it were the apex of an intussusception. In the light of the history and the finding of the rectal examination I felt quite sure that the intussusception had recurred and decided to operate. Within an hour of my examination I opened the abdomen through the old incision. A careful search revealed no signs of intussusception. There were some few flimsy adhesions in the region of the splenic flexure, and the bowel in this neighbourhood was reddened and œdematous, while the glands in the vicinity were enlarged. The cæcum was large and mobile, such as is found in children who suffer from intussusception. After removal of the appendix the abdomen was closed, and the child made a good recovery.

How is the recurrence of intussusception to be prevented? The first surgical principle is the removal of the cause, but this is a primary difficulty, for in children it is usually an unknown factor. If there is anything in my suggestion as to the relation of early tubercle to intussusception it does not necessitate the adoption of any special surgical measures. If for any reason recurrence is especially feared, or if it has actually occurred, what can be done? Some surgeons recommend putting a stitch through the mesentery of the appendix and fixing it to the posterior abdominal wall, while I believe others have suggested that the whole appendix should be buried in the abdominal incision. Even if successful these means could only result in fixing the cæcum, and would do nothing to prevent invagination through the valve. The measure I adopted proved futile, but might have been more successful had I used a continuous suture of silk instead of interrupted stitches of catgut; even so, abundant experience shows how difficult it is to fix two serous surfaces together, especially when one is freely movable. To be of much service I fancy it would be necessary to fix the bowel to the abdominal wall after separating the parietal peritoneum. If there is any gross pathological condition in the lower ileum not easily removable, then I should be disposed to make a lateral anastomosis as in the first case.

Taking all the circumstances into consideration I do not think it is necessary to take any special means to anticipate recurrence (except, of course, the removal of any causative factor, such as an inverted Meckel's diverticulum). In the rare cases in which the condition recurs it is always amenable to early diagnosis and operation.

Newcastle-upon-Tyne.

London (Royal Free Hospital) School of Medicine for Women: University of London.—The council have appointed Mrs. E. Flemming, M.D., B S. Lond, to the half-lectureship in medicine, and Mr. Malcolm L Hepburn, M.D. Lond., F.R.C.S. Eng., to the half-lectureship in ophthalmology. Two St. Dunstan's exhibitions of the value of £60 a year each for five years, the Isabel Thorne scholarship of the value of £30, and the Mabel Sharman-Crawford scholarship of the value of £20 a year for four years will be awarded on the results of an examination to be held in July next. A bursary for dental students of the value of £60 will also be awarded for the course beginning October, 1914. Further particulars can be obtained on application to the secretary, 8, Hunter-street, Brunswick-square, W.C.

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[1] A Note on Intussusception in Children, Northumberland and Durham Medical Journal, February, 1903.

NOTES ON A CASE OF EXTRA-UTERINE PREGNANCY IN A RUDIMENTARY FALLOPIAN TUBE.

BY DONALD DUFF, F.R.C.S. EDIN., F.R.F.P.S. GLASG.,
DISPENSARY SURGEON, GLASGOW ROYAL INFIRMARY; SURGEON AND GYNÆCOLOGIST, GLASGOW CENTRAL DISPENSARY; ASSISTANT GYNÆCOLOGICAL SURGEON, GLASGOW MATERNITY AND WOMEN'S HOSPITAL, ETC.

CASES of extra-uterine pregnancy are sufficiently common, so that one would expect the cause of the condition to be understood at this time of day when so much pathological work has been undertaken in connexion with the female pelvic organs. We are, however, no nearer the actual reason why pregnancy should take place ectopically in a large number of cases. Why a woman should bear children normally for a pregnancy or two and the following pregnancy should be abnormal in its site is a problem yet to be solved in these cases where there is no detectable occlusion of the uterine end of the tube or demonstrable lesion in the tube itself.

As a general surgeon, and not in the practice of obstetrics, I cannot claim to be able to throw any light on the causation of ectopic pregnancy, but the case I now report is of much interest to surgeons and obstetricians alike, not only on account of its rarity, but as showing that fatal hæmorrhage may result from a small, apparently unimportant source of bleeding within the abdominal cavity. The history and details of the case are as follows.

The patient was admitted to the surgical wards in the Glasgow Royal Infirmary on May 27th, 1910, complaining of severe pain over the lower part of the abdomen; the pain had been present only a few hours, was severe in character, and accompanied by sickness, but she had not vomited. She was somewhat collapsed, restless, and had marked pallor. She had passed her normal menstrual period by three days only. The temperature was 97°F. and the pulse 110; the abdomen was considerably distended, and tenderness was present in the lower zone. Rigidity was not a marked feature. Bimanual examination revealed a boggy mass in the left fornix.

She was taken to the operating theatre immediately and the abdomen was opened in the middle line. A considerable quantity of free blood was present within the abdominal cavity. The right appendages were found to be absent; no trace of ovary or tube could be found. On the left side a mass, rounded and fluctuant, was felt, and this at first was thought to be the gestation sac of an extra-uterine pregnancy. The tube and infundibulo-pelvic ligament were rapidly clamped, and on further investigation the mass proved to be blood-clot with some fluid blood in its centre. The right side of the pelvis was again explored, but all that could be detected as representing the annexa on that side was a small, red, thickened spot over the right cornu of the uterus. I thought the case was one of left tubal abortion, and I rapidly removed the clamped tube together with the ovary, cleared out the remaining clot, and closed the abdomen in layers, the whole operation being completed in 15 or 20 minutes.

The removed left annexa were subsequently examined, but I could detect nothing abnormal, and the case remained for the time a puzzle. The patient was placed in the Fowler position and treated with salines, but she did not survive beyond 50 hours after the operation.

A post-mortem examination was made by Professor J. H. Teacher, and a specimen has been prepared by him showing the abnormal uterus. He has also prepared sections from the rudimentary tube. His specimen shows features of considerable interest. On the right side there is absence of the mesosalpinx, and the right tube is represented by a small thickening at the uterine cornu. The post-mortem report states that the uterus is distinctly enlarged and has a thick decidual endometrium, but no ovum is visible. The left appendages, which had been removed, showed a small tortuous tube. The ovary is large and smooth with some blood on its surface; the enlargement is due to a corpus luteum cyst situated at the uterine end and a recent corpus luteum at its outer pole. No pregnancy can be detected on this side. The right ovary could not be found, and the right tube was represented by a thick fusiform stump set on the top of the right cornu rather than in the normal line of the tube, and the upper surface of this shows an area of blood clot a quarter of an inch in diameter. This body appears to be a tubal ovum. Microscopic sections of the thickening at the right cornu show this to be a small deformed tube containing fragments of an early ovum—villi, plasmodial masses, and the characteristic wall of an early implantation cavity.

There are several points of interest in this case. That the condition is rare will readily be admitted. I have not been able to find reference to an exactly similar case in a search through a considerable portion of the literature on ectopic pregnancy. The cases recorded of this malformation of the tube are few. There have been noted cases of supernumerary tubes. Accessory ostia have been seen in about 3 to 5 per cent. of cases. Accessory fimbria have been seen; abnormalities in length have been noted, especially in connexion with ovarian hernia. Absence of the tube when it occurs is most frequently unilateral and associated with uterus unicornis. A case has been recorded in which the uterus and vagina were well developed as in the present case, but the right tube and ovary were absent. When the ovary is absent there is usually tubal defect as well, but this is not invariably the case. Williams and Ballantyne have noted a case where there was absence of the outer two-thirds of the tube, and Marchand a case where in addition the ovary was absent. The cause of these abnormalities of the tube has been asserted to be fœtal peritonitis. In my case the uterus is well developed, but the whole of the right tube—except a very small stump—and the right ovary are absent. The deformity is of sufficient note to warrant the publication of the case, and the interest is considerably added to when gestation has occurred in the rudimentary tube. Obviously this is a case where the ovum has migrated from the left side, and there remains the additional proof, the presence of a recent corpus luteum in the left ovary. A question arises as to how the ovum gained entrance to the rudimentary tube. In the case noted by Ballantyne and Williams the outer end of the rudimentary tube had no opening, and no definite outer opening was seen in the present case, although of course it may have been closed after the impregnated ovum became imbedded. Was this a case where an ovum fertilised in the abdominal cavity attached itself to the rudimentary structure representing the tube?

A point of much importance from the point of view of treatment is the hæmorrhage which took place from the small vessels in the wall of the malformed tube. This bleeding was the cause of the fatal termination. At the operation the site of the hæmorrhage was not apparent, and certainly no free bleeding was taking place when the parts were inspected immediately before closing the abdominal cavity. Bleeding had, however, taken place afresh as shown post mortem. In a similar case the obvious treatment would be to excise the gestation area with a wedge-shaped incision and stitch the edges together.

Glasgow.

A CASE OF SCHISTOSOMIASIS JAPONICA.[1]

BY H. WHITE, M.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON, R.N.

TOWARDS the end of the spring of 1913 whilst serving in H.M.S. *Cadmus* in the Yangtse River, I had on board a case of this disease, which is of somewhat rare occurrence among white people, although quite common among the Chinese and Japanese. The patient belonged to the ship, and the following is the history of the case.

On June 10th the patient came to me complaining of pains in the lumbar and epigastric regions and that he had not been feeling well for some days previously and had eaten nothing for two days. On examination he had a temperature of 103·4° F. and a pulse-rate of 90. No physical signs in the chest were observed, but there was very slight tenderness in the epigastric region. The spleen was not palpable; a blood film examined for malaria was negative and Widal's serum reaction was also negative. A differential white cell count showed an extraordinary increase of eosinophiles amounting to 56 per cent. The patient was kept in bed on low diet, the morning temperature being 99·4°. Two days later a small patch of urticaria appeared in the hypogastric region to the right of the mid-line; the next day it had faded, and a similar patch came out to the left of the mid-line. Stools were examined for ova, and one of ascaris was found; this, however, would hardly account for the great eosinophilia present. Schistosomiasis was suspected, so the patient was sent to the Catholic Mission Hospital at Hankow, where we happened to be stationed. Here he was placed under the care of Dr. R. Aird, to whom I turned him over. By the courtesy of Dr. Aird I was enabled to follow the case. Santonin (gr. 5) was given, and one ascaris was passed. The stools were examined daily for the schistosomum ova; after four days they were present, which was one week after the onset of the symptoms. The temperature continued of the septic type, ranging from normal or subnormal in the morning to upwards of 102° in the evening.

The treatment tried was varied, as so little is known of this disease. Anthelmintics were given, such as santonin and felix mas, all to no purpose. Injections of quinine hydrochloride and a course of arsenic were also tried. No drug seems to affect the course of the disease. The patient steadily lost weight and became somewhat emaciated. The fever subsided very gradually, taking over six weeks to reach normal. A blood count done weekly showed eosinophilia varying from 50 to 70 per cent. After six weeks at Hanknow he was sent to the naval sick quarters at Wei-hei-Wei to convalesce, and returned to the ship a month later, looking very thin and ill, the eosinophilia being 47 per cent. After rejoining he suffered from pains in the legs when standing for a short time, and noticed that his hair was falling out. As he was somewhat anæmic (red cells 4,800,000) I prescribed some iron and arsenic. A big improvement in his general health followed, and his hair ceased to fall. As we were then at Hong-Kong refitting I sent him up to the Naval Hospital to have his stools examined to see if they were free from ova; the examination revealed the presence of ova of ascaris and trichocephalus dispar. Extract of male fern was given, but no worms were passed. Further frequent examinations of the stools proved them to be free from ova, so the patient was returned to the ship.

This infection is only found in the Yangtse Valley above Kiukiang, sufferers from it being those who have had some connexion with the waters from the paddy fields, such as people who earn a livelihood by working in these fields or those who walk about in them whilst shooting snipe or duck. These paddy fields are covered with water to a depth of from two to six inches. My patient told me that he often killed his wounded birds by biting the backs of their heads. This was probably the channel of infection in his case, although Dr. J. A. Thomson, of Hankow, who has seen a good number of cases, prefers the theory that the infection enters the body through the skin or *viâ* the rectum.

It seems to me, however, that it is very reasonable to suppose that the infection might more easily be conveyed through the mouth, as one can so easily be splashed by the water in which one is floundering about, or after picking up a bird out of the water, by brushing the hand across the mouth. Whilst we were at Hankow eight American sailors belonging to the U.S.S. *Quiros* became infected whilst bathing in the river at Yochow, their symptoms appearing two or three days later; whereas in the case I have described the patient had been shooting for the last time exactly four weeks previously. These Americans were treated by their own surgeon, Dr. Lanning, in the International Hospital at Hankow, each one receiving a different course of treatment as far as possible, the lines adopted being: Santonin, felix mas, intramuscular injection of quinine hydrochloride, arsenic by the mouth, and salvarsan intravenously, intramuscularly, and by the rectum. None of these treatments had any marked specific action on the disease, which seems to run its course unaffected by drugs.

Very little information concerning this disease can be obtained from any text-book, and for what little knowledge I possess I am indebted to Dr. Thomson and Dr. Aird, of Hankow, who are investigating it as far as possible with the little material at their disposal. Chinamen who suffer from this disease are those who are compelled to work in the fields and are continually exposed to reinfection, and among them the mortality is great, as this leads to cirrhosis of the liver, kidneys, &c., and their attendant sequelæ. The parasites themselves, which are from half an inch to one inch in length, are found post mortem in the veins of the portal system; their extra-corporeal life is unknown. It seems probable that the ova are taken in by the mouth, their walls being dissolved by the gastric juices, and the embryos which are thus set free pass through the walls of the stomach or intestine and develop in the portal veins. The ova are not found in the stools for some days after the onset of the fever. The stools at the beginning are very loose and light in colour, but after the first week or so they become formed, and the ova are found in the mucus adhering to the fæcal matter. They are easily seen with a 2/3 objective, are oval in shape, and with a 1/6 objective an embryo can be seen inside; the walls are thinner than those of ascaris. The parasites remain in the blood for some time after the symptoms have disappeared, gradually dying out as the patient recovers his strength, which returns rapidly in a temperate climate.

This disease is sometimes called urticarial fever, but the rash is not present in all cases. The most constant signs present are the prolonged fever and the large increase of eosinophiles, accompanied by the wasting of the patient. The mortality among the whites is practically *nil*, as they can so easily avoid reinfection.

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[1] Published by permission of the Medical Director-General of the Navy.

ACUTE LEUKÆMIA SIMULATING CARIES OF THE SPINE.

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AND
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ASSISTANT SURGEON, ST. GEORGE'S HOSPITAL.

THE following case is perhaps worthy of publication in THE LANCET on account of its unusual clinical features.

A boy, aged 5 years, was admitted into St. George's Hospital on August 26th, 1913, with the following history. Early in the year (April) he had an attack of whooping-cough followed by measles; from these he recovered somewhat slowly, but when sent away to the country in July he appeared to be perfectly well. While away he fell from a cart, injured his back, and as a result of pain was unable to walk for a few days On his return to London, however, on August 17th the pain had gone and he was able to walk normally. On the 20th he complained of further severe pain in the back and also in the right side of the abdomen—this latter pain disappeared in two days; the pain in the back increased in severity and again prevented him from walking. There had not been any previous illness, and the family history was good.

On admission the child appeared to be well nourished, healthy, and of good colour. He was unable to stand or even sit up on account of pain in the back. On examination of the spine there was extreme tenderness over the lower dorsal and upper lumbar vertebræ, with marked rigidity of the para-vertebral muscles. No bony deformity was present; any attempt at movement caused great pain. Tenderness was also elicited in the left sacro-iliac joint on lateral compression. There was no evidence of lumbar or psoas abscess, but abdominal examination was difficult owing to distension, which was very considerable on admission. Enlarged glands could be felt in both groins, on the right side of the neck, and in the left axilla—these were mostly small, firm, and painless. There was no evidence of any spinal cord lesion; the knee-jerks were normal.

The patient was kept in bed under observation and the bowels were well opened by purgatives to overcome the distension. In spite of the rest the pain continued and the temperature became irregular; accordingly, as the case appeared to be clinically one of acute tuberculosis of the spine, a complete plaster spinal jacket was applied under general anæsthesia with the child in the hyperextended position. Prior to the application of the plaster X ray photographs were taken of the spine and pelvis on three occasions; these revealed no abnormality. After a few days the pain in the back disappeared; the temperature, however, remained irregular. The plaster was removed in five weeks, and it was then found that the pain and the rigidity of the spine had disappeared. The pain in the left sacro-iliac joint still persisted and now was also present on the right side; a double extension was, therefore, applied to the legs, with the back extended on a wedge pillow, on the assumption that the sacro-iliac joints were affected.

About four weeks after admission it was noticed that the child was becoming pale in spite of the fact that he spent a large part of the day in the open air. The pallor slowly but steadily increased, and as the face became puffy and almost œdematous lardaceous disease was suspected; the bowels, however, remained constipated and the urine was free of albumin throughout On Oct. 1st an enlargement of the liver was detected, and this steadily progressed; the organ was smooth and painless, resembling the liver in lardaceous disease, but, as stated above, confirmatory signs were absent. The spleen was not enlarged. On Oct. 24th he had a severe attack of epistaxis followed by frequent vomiting of recent and altered blood for 36 hours. On the 28th a Wassermann reaction was performed by Mr. H. W. Bayly and found to be negative. Mr. Bayly also on the same day examined the blood and reported the following condition: "Red cells, 830,000; white cells, 14,800; polymorphonuclears, 17 per cent.; lymphocytes, 81 per cent.; mononuclear cells, 0; eosinophil cells, 2 per cent.; mast cells, 0; hæmoglobin, 20 per cent.; colour index, 1·18. Considerable variation in the size of the reds; one normoblast seen." The proportion of small and large lymphocytes was not given, but from recollection the large predominated. Mr. R. R. James examined the eyes on Oct. 29th and reported: "The fundi are pale. There is a hæmorrhage below the right disc. The veins are not characteristic of leukæmic retinitis" The child gradually sank and died on Oct. 31st.

The necropsy was performed by Dr. R. S. Trevor, who has also provided us with a description of the microscopical appearances. "The ribs were thin and the cancellous spaces large and full of deep red marrow; they were so brittle that they broke almost at once on handling. The marrow of the tibia was dull red in colour and firm in consistence. The spine was very flexible and was entirely free from any evidence of tuberculosis. The cancellous tissue of the bodies of the vertebræ was so soft that it could be cut quite easily, and the compact bone was thinned out. The bone marrow was deep red in colour. The sacro-iliac joints were free from tuberculosis The skull was normal. There were three small hæmorrhages in the right retina. The liver, weight 2 lb. 4 oz., presented rounded edges and was pale, firm, and enlarged. On section it was pale brown in colour, rather translucent in appearance, but did not give the reaction for lardaceous disease. The portal lymphatic glands were not enlarged. Spleen, 2 oz., was red and engorged. Kidneys, 4 oz. each, were pale and bloodless; they looked lardaceous, but did not give any reaction. Tonsils slightly enlarged. The thymus was well developed, but was not of abnormal size. The surface of the heart was covered with hæmorrhages. The valves were healthy. The musculi papillares in the left ventricle showed fatty degeneration.

Microscopical appearances: The bone marrow from the tibia shows a striking leucoblastic reaction. The change is widespread, though rather more pronounced in patches. The cells present in these areas are lymphocyte-like cells, mostly of large size. The cell protoplasm is scanty, and at times forms may be seen as a narrow ring round the large nucleus, which is either irregularly rounded or oval. The cell protoplasm is non-granular, for the most part basophilic, but not a few cells show a tendency towards a neutrophilic reaction. The nuclei are for the most part degenerate, many showing a loose network with large clear spaces in between. There are a few myelocytes present, mostly of the coarsely granular eosinophilic type [illegible] phonuclear cells are [illegible] are distinct zones of [illegible] aloblastic in type. The nature of the lymphocyte-like cells is not clear, but I would regard them as myeloblasts or premyelocytes The liver is diffusely infiltrated with cells similar to those predominating in the marrow. These cells fill the capillaries and form large clusters in the portal spaces. The kidneys are similarly affected, but the infiltration is more patchy and best marked in the zone between the cortex and medulla. The tonsils show chronic inflammation, and the crypts are full of inspissated secretion or débris"

The main interest of the case is the simulation of spinal caries by leukæmia, for this does not appear to have been observed in any published cases. At any rate, it is not mentioned in the 121 summarised cases of acute leukæmia tabulated by Boudet.[8] It is known that occasionally the sternum and long bones are tender on pressure and exceptionally the site of dull pain, presumably from hyperplasia of the bone marrow and absorption of the bone. According to Muir,[7] these symptoms are relatively less rare in myeloid than in lymphocytic leukæmia. In Parkes Weber's[9] and Hans Leyden's[6] cases of acute leukæmia there was pain in the back. It is, however, noteworthy that in a case in which the bone marrow changes were confined to the vertebræ there is no mention of pain in the back (Emerson[4]). Chloroma is an atypical form of leukæmia characterised by the presence of green tumours usually growing from bones, and it is not surprising to find that pressure symptoms may occur. In the analysis of his collected cases of chloroma Dock[3] quotes two examples of pressure on the spinal cord and several of sciatica. In one of Treadgold's[8] cases (a boy aged 3 years) there was loss of power in the legs. There was a tumour on the right frontal bone, but no mention is made of the spine at the necropsy.

A puzzling feature was the very considerable enlargement of the liver and the absence of any splenic enlargement—a rather exceptional association in leukæmia and especially in this instance, as the spleen enlarges more readily in young than in adult subjects. It is not noted in any of Babonneix and Tixier's[1] 29 collected cases of acute leukæmia in infants; but among Forbes and Langmead's[5] 12 cases of acute leukæmia in early life there was one case (a boy aged 9 years) with enlargement of the liver without splenomegaly. In Wolff's[10] case of "aplastic leukæmia" with aplasia of the bone marrow, progressive anæmia reaching 500,000, leucocytes 3000 to 5000 with a predominance of large lymphocytes, the spleen was small and the liver reached six finger-breadths below the costal margin. The very considerable enlargement of the liver in our case shows that the leukæmia was not of the most acute form.

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Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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NOTES OF THREE CASES OF QUININE POISONING, TWO OF WHICH WERE FATAL.

BY JOHN D. GIMLETTE, M.R.C.S. ENG., L.R.C.P. LOND.,
RESIDENCY SURGEON, KELANTAN.

LARGE doses of quinine, such as a scruple or half a drachm of the sulphate in a single dose, may occasion vomiting and pain in the stomach, giddiness, flushing of the face, palpitation of the heart, a sense of distension in the head, intense headache, ringing in the ears, numbness in the feet, deafness, blindness, and even delirium and coma. In persons who are susceptible a dose of 6 grains may, as reported by Connor,[1] give rise to these alarming symptoms, with a rash in addition, but such accidents are uncommon in the absence of any definite idiosyncrasy, and death as a direct result of a poisonous dose is rare and worthy of record.

On Sept. 9th, 1913, two Chinese coolies, employed on a small rubber estate in one of the Protected Malay States, died, and another was definitely poisoned at the same time but subsequently recovered. Malaria is prevalent in the district, and the value of quinine as a preventive is well known to Chinese immigrants; it is commonly administered to them after a preliminary dose of Epsom salts. At daybreak on the day in question the three Chinese reported themselves sick, with constipation and fever; they were attended to by their head man, a Chinese mandor, who gave them each 2 ounces of a concentrated solution of quinine in mistake for a solution of Epsom salts. The patients were not seen by any qualified practitioner, but as soon as it was recognised that they had been accidentally poisoned an Indian hospital assistant was sent for from a neighbouring estate. On his arrival, about 10.30 A.M., one Chinese was dead and another unconscious; he washed out the stomach of the latter and gave an injection of strychnine, but the man shortly died.

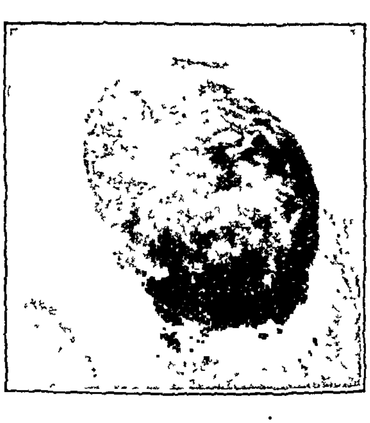
The third was groaning, sweating, vomiting, and only semi-conscious; he was given ipecacuanha as an emetic, as well as castor oil, and was removed to the nearest estate hospital. On his recovery the next day he said he felt giddy after taking the medicine, had ringing in the ears, fulness in the head, deafness, double vision, and then became delirious. When in hospital he complained of great itching in the lower limbs. The urine was not examined. The men who died had complained in Chinese of burning at the heart; they became delirious and ultimately comatose. It is roughly estimated that each coolie took 90 grains of sulphate of quinine in a single dose on an empty stomach.

Kota Bharu, Kelantan.

NOTE OF A CASE OF RAPIDLY GROWING ALVEOLAR SARCOMA OF THE CRANIUM.

BY D. W. KEILLER MOODY, M.D., C.M. ABERD.

A BOY aged 10 years was hit behind the ear by a small stone. As soon as it occurred he complained of much pain, and a lump about the size of a hazel nut was seen by the parents behind the ear. They did not attach much importance to it, and he went to school for three weeks afterwards, making no complaint. The lump, the parents said, remained the same size. He was then sent home one day from school as he had been "sick." The lump then began to swell. Medical advice was sought, and it was taken to be a hæmatoma that had "broken down." It was soft and fluctuating.



From a photograph of the growth showing the fungating mass protruding from the incision.

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[1] Medical Record, April 4th, 1903.

A small incision was made, and it bled freely and a small quantity of pus exuded. It was then recognised that a mistaken diagnosis had been made, and that it was probably malignant. Pathological examination showed it to be an alveolar sarcoma, probably periosteal in origin. It grew to be an enormous size, embracing the whole of the left parietal bone, most of the temporal, and a small part of the frontal and occipal (see figure.) Cerebral symptoms set in, and the patient died exactly four weeks and two days from the time he became "sick," or seven weeks and two days from the time of the trauma.

The case is interesting, not only on account of the trauma, but because of the rapid growth and early fatal results.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Clinical Cases.

A MEETING of this section was held on Jan. 8th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. H. D. ROLLESTON and Mr. E. G. BOYD showed a case of Addison's Disease in a Boy, with Calcification of the Adrenals. The patient, aged 12¾, was bright, intelligent, and fair-skinned until the close of 1913, when his skin was noticed to be brown; an attempt to wash it off failed, and it was thought to be due to his habit of drinking vinegar. Synchronously with his change in colour he lost all energy, was inclined to sleep all day, very easily got tired, had a cough at night, and nocturnal enuresis. There had not been any gastro-intestinal disturbance or fainting attacks. An uncle and a brother were said to have had tuberculosis. On admission to the hospital the boy had a somewhat lifeless, sleepy, sunken-eyed appearance and a general bronzing of the skin, especially around the nipples and pudenda. There was a pigmented scar in the left groin, and the back and abdomen showed a few scattered spots of pigmentation. There was no buccal pigmentation. There were no signs of pulmonary or spinal tuberculosis, and von Pirquet's reaction was negative. The systolic blood-pressure in the arms varied between 74 and 84 mm. Hg. There was no valvular disease of the heart. There was no dulness behind the manubrium sterni. Dr. Stanley Melville reported that a skiagram showed very definite calcareous particles in the region of the last rib and suprarenal body on the right side, less definite on the left side. The heart was small and vertical. There were discrete and dense opacities at the hila of the lungs, suggesting calcified nodules. The movements of the diaphragm were feeble, but the expansion and translucency of the apices normal. A blood count showed some polycythæmia and an increase in white cells to 23,000 per c.mm. Dr. Rolleston said that a high lymphocyte count had been thought to indicate concomitant lymphatism, and therefore to be an ominous sign. An increased number of red blood corpuscles was occasionally seen in Addison's disease, and various explanations had been offered. It had been thought to be due to concentration of the blood from vomiting or diarrhœa, neither of which occurred in this case. A specific action of tuberculous toxin had been invoked, and G. R. Ward had described the process as compensatory, and argued that adrenal insufficiency gave rise to circulatory stasis, which, in its turn, caused concentration of the blood and actual increased blood formation. The treatment which was being adopted was rest in bed and adrenalin chloride solution (1 in 1000), 10 minims in water three or four times daily by the mouth.

Mr. SYDNEY BOYD showed a case of Splenectomy for Chronic Acquired Acholuric Jaundice with Splenomegaly. It was that of a man aged 22. The illness began in August, 1909, with lassitude, loss of appetite, indigestion, with occasional vomiting, especially after fatty foods, frontal headache, giddiness (especially on stooping), and slight icteric discolouration of the conjunctivæ and skin. Jaundice had persisted more or less since the onset and always became worse after exertion. The urine was dark in colour and the stools were said to be light-coloured. Eighteen months ago the gall-bladder was explored and drained in a London hospital with a negative result, the jaundice persisting. He first came under Mr. Boyd's observation in August, 1913, and was found to

There was slight

The spleen was

below the costal margin. The liver edge could be felt just below the right costal arch and was rather firmer than normal. The other viscera were healthy. The motions were of normal colour; the urine dark reddish-brown, specific gravity 1016, acid, contained an occasional trace of albumin, no sugar, blood, or bile. The red blood cells numbered 4,200,000 per cubic millimetre, white cells 5900, hæmoglobin 80 per cent., colour index 1·05. A week later the blood was examined by Dr. S. H. Browning, who reported as follows: Total red cells, not done; hæmoglobin, 96 per cent.; white cells, differential count (500 counted)—polymorphonuclears, 70 per cent.; lymphocytes, 28 per cent.; large mononuclears, 1·2 per cent.; eosinophiles, 0·8 per cent.; mast cells, 0. From the appearance of the films there was some polymorpho-leucocytosis. The red cells varied considerably in size; there was some polychromatic staining. No normoblasts were seen. Some poikilocytosis. Films stained by

some red cells and

serum was quite

is for bile pigment.

The blood, unfortunately, underwent auto-hæmolysis before it was spectroscoped. The relation between serum and clot was very abnormal—about 7½ c.c. of serum in 10 c.c. of blood. Wassermann's reaction was positive. There was a very slight increase of fragility of the red cells. The patient was kept under observation in bed for four weeks. The jaundice varied from day to day, and with each exacerbation he had drowsiness, headache, and general malaise. Operation: A preliminary hypodermic injection of morphine, scopolamine, and atropine was given. Inhalation anæsthesia by open ether was employed. Splenectomy was performed through a vertical incision near the outer edge of the left rectus. The spleen was delivered out of the wound, there being no adhesions to the diaphragm. The gastro-splenic omentum was divided close to the spleen between several pairs of forceps and ligatured. The splenic vessels between the two layers of the lieno-renal ligament were then similarly treated, being divided also close to the spleen. The wound was closed in layers without drainage. There was hardly any shock; very little vomiting and no hæmatemesis followed. Convalescence was rapid. On the third day after the operation the jaundice was very much less; at the end of a week the sclerotics had lost their icteric tinge and the urine was normal in colour. The patient expressed himself as feeling very much better, having lost his headache and drowsiness and digesting his food well. A second report on the blood was made by Dr. Browning one month after splenectomy. The Wassermann reaction was now negative, and Dr. Browning had little doubt that the former positive reaction was due to the excess of bile in the blood serum. The fragility of the red corpuscles was, as before, practically normal. The blood had not hæmolysed of its own accord. Hæmoglobin, 100 per cent; differential count normal; character of blood cells normal; the blood seemed normal. Dr. A. G. Gibson reported on half the spleen sent preserved. The external shape of the organ was normal and the size about twice that of the adult spleen. Its surface was slightly roughened, but the capsule was not definitely thickened. On section it was dark brown in colour, and the Malpighian bodies were marked though not increased in size or number. The trabeculæ could also be seen. Small darker points could be seen here and there and suggested thrombosis in the smaller vessels; some of the larger vessels were definitely thrombosed. Microscopically, the organ was highly cellular. Malpighian bodies were present and the larger trabeculæ were thickened. Red and white clot could be seen in some of the larger veins. In the more cellular parts were numerous lymphoid channels lined by a simple but not always regular epithelium.

—kinks in the ileum, uric acid, &c. Many cases of pernicious anæmia had been "cured" by divers remedies. The ordinary course of pernicious anæmias was three "cures" and three relapses. The study of the blood and its diseases had greatly altered during the past 20 years. It was only seven years ago that the myeloblast was discovered, and it revolutionised our ideas on blood diseases. He thought that Dr. Hunter's statement that the size of a septic lesion was of no importance was grossly inaccurate, and he begged the audience to temper their enthusiasm with judgment.

Mr. **ERNEST H. SHAW** said that the mouth of the average hospital out-patient was a fearful place. Swabs and cultures showed fearsome growths. Streptococci were *the* important organisms. Each culture really represented a group of streptococci. In pernicious anæmia he had never been able to find streptococci in the blood either ante or post mortem. The pus from pyorrhœa alveolaris on culture showed almost pure growths of streptococci, and it always seemed to him a rather doubtful procedure to pull out the teeth. He was no advocate for the indiscriminate use of vaccines unless the teeth had first been attended to and ordinary dental hygiene had failed to check the disease. He disagreed with Dr. Tidy's views on oral sepsis and tonsil operation and agreed with Dr. McKenzie. He could not agree with Dr. Hunter that pernicious anæmia was due to infection, as no organisms had ever been found in the blood. If Dr. Hunter's views were correct, how was it that one found so many filthy mouths in people who were in sound health and full-blooded?

The **PRESIDENT** thanked Dr. Hunter for his interesting address and for giving the society an opportunity to hear the result of his 25 years' labours on conditions of the blood. He quoted the case of a boy aged 14 who was at present under his care. He first saw the case on May 28th last, and was puzzled as to a diagnosis till the blood was examined, which revealed a typical lymphatic leukæmia; on June 7th the count showed 8000 white cells, 2,880,000 red cells, colon index 1·6, a very low polymorphonuclear count (namely, 16 per cent.), and a very high lymphocyte count (namely, 82 per cent.). Anxious to have another opinion Dr. Hunter was called to see the case, but the temperature, which had been running an erratic "high" course for a month, had dropped two days before Dr. Hunter was called in. Dr. Hunter advised the removal of an upper lateral incisor tooth which in itself was quite healthy, but the gum was a little spongy over its root. There was no pain, and no pus was present. To make sure that sepsis was not giving rise to the trouble a second tooth was removed so that the antrum could be examined. No pus was obtained. The President said that although the boy looked very well and had put on weight considerably he was still not right, and that the last examination of the blood, which was made on Dec. 24th, gave white cells 7000, red cells 5,920,000, colon index 0·7, the polymorphonuclears as 42 per cent., and the lymphocytes as 54 per cent.; the former should be between 60 per cent. and 70 per cent. and the latter about 25 per cent. Time would tell as to whether this was not a true case of lymphatic leukæmia or whether sepsis played a part in this severe illness.

Mr. **F. TALBOT** said that in most dental practices 80 to 90 per cent. of the patients had oral sepsis. It would be exceedingly difficult to prove that such an everyday cause produced such a disease as pernicious anæmia. One might as well say that the teeth ought to be extracted in case they harboured the pneumococcus, which it was known they did.

Mr. **A. H. PAYAN DAWNAY** said that for want of any better reason many cases of inflammatory eye diseases were put down to oral sepsis, and he could certainly say that many such conditions were greatly benefited by suitable dental treatment.

Mr. **GEORGE NORTHCROFT** said that when marked pyorrhœa existed there was no known cure save radical removal of the teeth. Mild cases of gingivitis might be successfully treated. Many cases of alimentary toxæmia and arthritis had been absolutely cured by the removal of the primary focus of infection in the mouth. It had seemed to him a disgrace that no other effective treatment than extraction had ever been discovered for severe oral sepsis.

Dr. **HUNTER**, in replying, thanked the society for the great interest they had taken in the subject, and he especially wished that all the medical men present would recognise the fact that "medical sepsis" existed and was of supreme importance.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

The Retraction Ring of Bandl.

A MEETING of this society was held on Dec. 19th, 1913, in the Glasgow Maternity and Women's Hospital, Mr. A. ERNEST MAYLARD, the President, being in the chair.

Dr. **R. JARDINE** read a paper on the Retraction Ring of Bandl as an Obstruction in Labour. From a clinical point of view, he said, the exact situation of the ring was not of so much importance as the fact that it did form and might cause an exceedingly dangerous obstruction in labour. In some cases it was not the primary cause but the result of the obstruction; in others, it was itself the cause of the obstruction. While it was a rare complication of labour, it was commoner than was generally supposed. Cases fell into three groups according as the retraction ring formed (1) in front of the presenting head, (2) above the presenting head, or (3) in breech presentations; and each group presented the following characteristics: 1. Retraction ring in front of the head. *Diagnosis.*—There was no apparent obstruction to the advance of the head, yet labour was delayed, though the uterine contractions were strong and frequent. On palpation of the abdomen the head was found well above the brim of the pelvis and could not be pushed down. If the abdominal wall were thin the ring could be felt, but with a thick wall it might not be felt. On vaginal examination the os was found to be dilated and the lower uterine segment opened up, but some 3 inches or so above the os a distinct ridge was felt running round a portion or the whole of the uterine cavity in front of the head. During a pain this ledge did not relax but became more prominent and prevented the advance of the head. The membranes might or might not be ruptured; if intact, they protruded into the vagina and might even appear at the vulva. In any case the ring undoubtedly formed before the membranes ruptured. The cause of the formation of the ring was possibly a spasmodic contraction of certain of the uterine fibres, comparable to the spasmodic contraction of the os which was occasionally met with and was generally attributed to an irritant which acted reflexly. *Prognosis.*—If the condition were recognised in time both mother and child should be saved, but unfortunately in many of the recorded cases a definite diagnosis was made only when exhaustion had set in and there was little chance of saving either. The proper *treatment*, if the child were alive, was Cæsarean section. Full doses of morphia or opium failed to cause relaxation. Manual dilatation was impracticable. Incision of the ring would be followed by extension of the incisions and would end in rupture of the uterus. Hydrostatic bags could not be introduced high enough to bear on the ring. If the child were dead it could be delivered by craniotomy. 2. Retraction ring above the presenting head. *Diagnosis.*—In a thin patient the ring would be palpable, and on vaginal examination it could be felt as a distinct ledge in front of the shoulders. The membranes ruptured before there was any dilatation of the os and the uterus soon became moulded round the child. During the slow dilatation of the os retraction took place and the ring formed round the neck of the child. *Prognosis.*—If the condition were recognised early the chances for both mother and child should be good, but if it were recognised only after attempts to deliver had failed the prognosis was unfavourable, especially for the child. In this group of cases, also, the treatment was Cæsarean section if the child were alive, or craniotomy if it were dead. 3. In a breech presentation, when the legs were extended, impaction generally occurred, because of the retraction ring gripping the child below the knees, so that its legs and feet were hitched above the ring. In these cases the membranes ruptured early, the whole of the liquor amnii drained away, and the uterus became moulded round the child. The risks to the mother were very small if proper precautions were taken, and to the child they were not much greater than in an ordinary breech presentation which required artificial delivery. With the patient deeply anæsthetised the flattened hand should be passed in carefully in front of the child until a foot was reached, which must then be swept inwards over the front of the child and brought down carefully on account of the thinness of the lower uterine segment. When the leg was brought down traction should be made upon it, while an assistant kept up firm pressure upon the fundus of the uterus to prevent the arms going up and to keep the head well flexed. If the arms were caught they must be relieved by sweeping them over the front of the child, and the after-coming head must be dealt with in the usual way.

Reviews and Notices of Books.

The Examination of Waters and Water-supplies.

By JOHN C. THRESH, D.Sc. Lond., M.D. Vict., D.P.H. Camb. Second edition. With 53 illustrations. London: J. and A. Churchill. 1913. Pp. 644. Price 18*s.* net.

DR. Thresh's experience of this great subject is well known to be a wide one. He wrote authoritatively on water and water-supplies a good many years ago, and his views as to the ways and means of securing pure supplies have borne fruit and have been a useful guide to many municipal authorities. From the point of view of securing a pure and abundant supply of water, he was amongst the first to appreciate the importance of studying the topography of water-supplies, and at the same time devoted much attention to the consideration of the technical problems which presented themselves in regard to differentiating those waters which were suitable and unsuitable for drinking purposes by both chemical and bacteriological methods. His book reflects this work, and the second edition of it will be welcomed. The previous edition was issued in 1904, and of course since that time considerable and important developments in connexion with questions of quality and quantity of water-supply have occurred. The work has been brought into touch with these newer developments.

Dr. Thresh discusses at greater length than before, and in the light of recent researches, the extraordinary importance of the processes of self-purification, chief amongst which is sedimentation. Storage in the case of London's water-supply has undoubtedly been largely responsible for maintaining a pure and abundant supply since the days not so many years ago when there were reasonable complaints of shortage and of doubtful quality. The huge schemes of reservoir construction at Staines and Tottenham prove to have provided not only an adequate supply of water by reserving the heavy flow of flood time, but also to have maintained that reserve in a condition fit for drinking owing to the purification that ensues when water is stored for a definite period. No one has more fruitfully developed the question of the great advantages of storage than Dr. A. C. Houston, the present water examiner to the Metropolitan Water Board, whose valuable contributions also on the bacteriology of water-supplies are cordially appreciated by Dr. Thresh. Dr. Thresh has, indeed, drawn most usefully upon the series of researches carried out by Dr. Houston, and no reference could be more important than that on the numerous investigations which Dr. Houston carried out on a large scale on the effect of storage. This will be understood when we quote one amongst the many conclusions arrived at, which is as follows: "The habitual use of stored water would lighten the grave responsibilities of the Water Board as regards the safety of the London water-supply, and would tend to create a sense of security amongst those who watch over the health of the metropolis."

Dr. Thresh's book will be valued, not only for his clear discussion of the practical considerations involved in supplying pure and abundant water to the community, but also on account of the chapters on laboratory technique, which provide a system of scientific control over that supply.

Diagnosis and Treatment of Diseases of Women.

By HARRY STURGEON CROSSEN, M.D., Associate Gynæcologist, Washington University Hospital; and Associate in Gynæcology, Washington University Medical School. Third edition. With 744 engravings. London: Henry Kimpton. 1913. Pp 1025. Price 28*s.* net.

THE third edition of this book retains the characteristics of the first two editions. It has been revised and much new material added, as well as some new illustrations.

A description is given of Abderhalden's serum-diagnosis of pregnancy, which the author considers may be used to advantage in a number of classes of cases, if its limitations are borne in mind. The method of employing the complement-fixation test in cases of gonorrhœa in which the gonococcus cannot be demonstrated is described, and in the opinion of the author the diagnosis may be cleared up with fair certainty in many doubtful cases of this kind by this test, provided the work is carried out by a well trained observer. An interesting section of the work is that dealing with the use of various forms of pessaries not usually described in text-books of gynæcology, which are of value in cases of inoperable prolapse of the uterus and vagina. The author describes the methods of using the Gehrung pessary, often a most useful support, Hewitt's pessary, that of Menge, and the cup and stem. The advantages of Gehrung's pessary are recognised by Dr. Crossen, and he gives a full account, with a number of useful diagrams, showing how to introduce this pessary and its action when properly placed in the vagina. It is certainly, as he says, the best of these pessaries and usually acts well in cases considered for one reason or another inoperable. In view of the fact that the preface to this edition is dated July, 1913, it is interesting to notice the statement in connexion with the treatment of cancer of the uterus that "the effect of radium treatment is practically *nil*," an interesting commentary upon the rate at which methods of new treatment may come into vogue. In not a few hospitals at this date (the beginning of 1914) the use of radium is to a large extent supplementing the knife in the treatment of cancer of the uterus.

The book is a good one, and this new edition should meet with a ready appreciation.

Die Cystenniere, Studien über ihre Pathologische Anatomie.

Von O. BERNER, Prosektor der Histologie an der Kgl. Frederiks-Universität zu Kristiania. Mit 159 zum Teil farbigen Abbildungen und 26 Tafeln. Jena: Gustav Fischer. 1913. Pp. xliii. + 284. Price 25 marks.

THIS work on cystic kidney is one of those

"Fridtjof Nansens Fonds" is duly thanked by the author for his liberal contributions towards the expenses of the preparations and the microphotographs.

Cystic kidney is not a very common affection and is one not often diagnosed during life. It is a condition, however, which has great interest for the wide and varied experience at home and abroad, possessing all the necessary qualifications for the preparation of a handbook of tropical medicine and hygiene. Dr. Daniels in the first edition grouped the diseases of the tropics according to their known or probable causation. Subsequent experience, he now says, has quite justified this method of grouping these maladies. In deference to certain criticisms passed upon the first edition, he has altered the arrangement of some of the matter so as to diminish the amount of repetition. The chief diseases dealt with in Part I. are malaria, blackwater fever, piroplasmosis, yellow fever, sleeping sickness, the various forms of leishmaniasis. the diseases associated with spirochætæ, and lastly intestinal protozoa. The concluding chapter is especially devoted to giving a *résumé* of prophylaxis in protozoal diseases. Dr. Daniels holds the opinion that most medical men working in the tropics ought to be practical sanitarians as well as clinicians; for this reason, while paying due attention to the clinical characters of tropical maladies and to their proper treatment, he gives special prominence to the etiology and prevention of these diseases.

This book gives in a handy and concise form a great deal of valuable information to practitioners and students of tropical medicine.

Handbuch der Vergleichenden Physiologie.

Herausgegeben von HANS WINTERSTEIN. 38. Lieferung. Band III., Physiologie des Energiewechsels. Erste Hälfte. Jena: Gustav Fischer. 1913. Pp. 1295–1446. Price 5 marks.

IN this part R. F. Fuchs continues his lucid and voluminous exposition of the colour changes and chromatic cutaneous functions of animals, more especially of the arthropoda. The work of Keeble and Gamble is often referred to. A very full account is given of the chemistry and movements of pigments of the chromatophores and of the various conditions which influence their activity, as well as the nerve endings and development of the chromatophores. A particularly full account is given of the physiology of colour changes in crustaceans. About one-half of the text is devoted to the cutaneous colour changes in fishes, amphibians, and reptiles. This is undoubtedly the standard work of reference in all matters relating to the fascinating subject of colour changes in animals.

Organic and Functional Nervous Diseases: a Text-book of Neurology.

By M. ALLEN STARR, M.D., LL.D., D.Sc., Ph.D., Professor of Neurology, Columbia University, New York. Fourth edition, thoroughly revised. Illustrated with 323 engravings in the text and 30 plates in colours and monochrome. London: Baillière, Tindall, and Cox. 1913. Pp. 970. Price 25*s.* net.

THE fourth edition of this deservedly popular text-book has been enlarged by some 60 pages, and has been brought thoroughly up to date. The space allotted to functional diseases of the nervous system has been more than doubled. There is new material in the sections on tumours of the brain, pellagra, headache, disorders of sleep, the sympathetic nervous system—to enumerate but a few. Several of the criticisms advanced in our review of the third edition have been noted, as their occasion has been removed. In view of the adherence given to Freud's theories in America it is agreeable to note the unmistakable attitude of reasoned scepticism adopted by Professor Starr. While admitting the elements of truth in the Freudian hypothesis, he emphasises the errors, demonstrates the limited scope of the Freudian methods of treatment, and exposes its objectionable features.

The text-book has been improved by the addition of new matter and the revision of the old, and again we can recommend it to the favourable notice of the medical profession.

LIBRARY TABLE.

Lectures on Tuberculosis to Nurses. Based on a Course delivered to the Queen Victoria Jubilee Nurses by OLLIVER BRUCE, M.R.C.S. Eng., L.R.C.P. Lond., Joint Tuberculosis Officer of Essex. London: H. K. Lewis. 1913. Pp. 134. Price 2*s.* 6*d.*—The material in these lectures has been chosen with discretion and is discussed plainly. The directions as to treatment and prophylaxis can be easily understood and acted upon by nurses in charge of patients suffering from tuberculosis, especially pulmonary. Abstruse theoretical subjects are avoided, but a good account is given of the channels of infection, and a few remarks are added on the chief points concerning immunity. We cannot agree with Mr. Bruce that the practice of training a nurse to examine patients with the stethoscope is "perhaps to be recommended." The nurse's province is to carry out the physician's instructions, not to encroach upon the field of diagnosis. The remarks upon social conditions. hygiene of the nursery, and the general care of a consumptive patient, especially as regards the disposal of the sputum, should be carefully studied by nurses in whose hands the prophylactic measures to be adopted largely lie. Sanatorium treatment is well described. The theory of auto-inoculation is discussed, and the "graduated labour system" is explained in detail. This is very necessary. The word "graduated" appears sometimes to be forgotten; if a patient is at once put upon active work in the garden without passing through the previous grades the result is often anything but favourable to the patient. Short descriptions are provided of the principal complications of pulmonary tuberculosis, and directions are given as to the nursing of such cases. There is at present a considerable demand for nurses in connexion with the National Insurance Act, and we can recommend this small volume as a reliable guide to instruct and assist those nurses in their duties.

Grundriss der Pharmakologie. Von O. SCHMIEDEBERG. 7. Auflage, bearbeitet unter Mitwirkung von E. ST. FAUST. Leipsic: F. C. W. Vogel. 1913. Pp. 643. Price, paper, 12 marks; bound, 13.40 marks —The rapid advances of pharmacological science render the revision of the text-books upon it an almost constant necessity. The first edition of the book before us was issued as far back as 1883. Up to 1895 three editions were issued, and as the present is the seventh edition, four more have been issued in the interval, that is between that year and the present time. The book shows careful revision throughout, and the references to modern literature are copious. The need, however, for further work is in some cases indicated in those references which bear a relatively early date. The work is divided into three sections. The first, on nerve and muscle poison, claims more extended treatment than the rest. It is subdivided into five groups: A, nerve and muscle poisons of the fatty acids; B, nerve and muscle poisons included in the alkaloid family; C, poison derivatives of the aromatic series; D, poisons of the camphor and terpene group; and E, the poisons of the toxin series (digitalin, picrotoxin, sapotoxin). Section II. includes considerations of drug, vehicle, aromatics, bitters, and so forth; while Section III. deals with neutral salts, alkalies, the metals and their salts. This last section contains interesting and up-to-date references to that increasingly important group of bodies, the metal colloids. The classification adopted is as convenient as any, and on the whole presents a clear and systematic view of the "foundations."

Synopsis of Midwifery. By ALECK W. BOURNE, B.A., M.B., B.C. Cantab., F.R.C.S. Eng. Bristol: John Wright and Sons, Limited. 1913. Pp. 212. Price 5s. net.—*This handbook is intended to present* the principal facts concerning obstetrics in such a form as to be useful to students preparing for their examinations. The book is to be used mainly for purposes of revision in conjunction with the ordinary more detailed text-books dealing with the subject. Important things from the examination point of view have been emphasised and a good deal of space has been devoted to treatment. The book should perform a useful function if used for the purpose for which it is intended; and based as it is upon the best-known text-books its teaching is not likely to lead the student astray.

MISCELLANEOUS VOLUMES.

OUR selection of volumes this week is truly miscellaneous, embracing biography, travel, antiquarianism, occultism, and food and cookery.

Mr. ARNOLD HAULTAIN, who appears as Boswell to Professor Goldwin Smith's Johnson, has given us in *Goldwin Smith, His Life and Opinions* (London: T. Werner Laurie, Limited. Pp. 304. Price 18s. net.), a most interesting book, though it is a misnomer to call it a "Life." But the "Conversations and Comments," which cover the period 1898–1910, show the Sage of Toronto as he really was—his brilliancy, his grim sense of humour, and, we must add, his extraordinary facility for being disagreeable in print. Like Johnson, he was a good hater, and the special objects of his dislike were the Jews in general and Disraeli in particular. The latter had called him "a wild man of the cloister," a phrase which Mr. Haultain considers not altogether inapt, and illustrates by saying that Goldwin Smith, when talking about some strikes, said: "Why cannot people be satisfied with what they have got?" At this time, says Mr. Haultain, his own capital was about £160,000. But no one can read Mr. Haultain's interesting and capitally written book without feeling that Goldwin Smith, despite his many limitations, was always absolutely sincere, and a truly great man.

From the ecclesiological point of view Spain equals if it does not surpass Italy, apart from Rome. Nowhere else has the primitive arrangement of the choir survived in such completeness as in Spain, where in the marvellous and gorgeous choirs of Seville, Granada, Toledo, and Burgos, to name only a few, may be seen the full development of the little embryo, such as the arrangement of San Clemente at Rome. In *The Cathedrals of Southern Spain* (London: T. Werner Laurie, Limited. Pp. 248. Price 6s. net) C. GASQUOINE HARTLEY (Mrs. Walter M. Gallichan) has written a book which should be read by everyone who is about to visit Spain. She writes with the mind of an artist, and as one who realises all that the Church meant and means to a Spaniard, and she is fully impressed with the dignity and richness of Spanish ritual. Sometimes her admiration goes beyond that which we can feel—for instance, in the matter of Spanish glass and windows. They are, it is true, eminently fitted for the climate as regards size and position, and the glass is often beautiful in colour, but when she says (p. 197), "In Barcelona as in Seville Cathedral one feels that one has never seen church windows before one visits Spain," we can only wonder whether she has ever seen Le Mans or Chartres. But we are quite of one mind with her in her insistence on the richness and sumptuous character of a Spanish cathedral. There is nothing like it elsewhere in Europe, except in the great churches of Russia, both monastic and diocesan, such as the two great churches in Kieff. The same feeling for dignity and richness which led the Spanish Church to fight for and maintain the Mozarabic Liturgy (even though it be used only at Toledo) is apparent in the arrangement and decoration of her churches, although even in them the "foul torrent of the Renaissance," to quote Ruskin's characteristic exaggeration, brought forth the monstrosities of Churriguera. Mrs. Gallichan's book is carefully illustrated with reproductions of photographs which add to the interest of the descriptions. In one place, however (p. 206), the account given in the text of the Puerta de Las Infantas, at Lerida, does not seem to us to tally with the picture thereof.——Sir FREDERICK TREVES'S *Land that is Desolate* (London: Smith, Elder, and Co. 1913. Pp. 287. Price 6s. net.) received an extended notice on publication, in THE LANCET for Jan. 25th, 1913. It is therefore unnecessary to do more here than to call attention to its republication in a popular edition.

Personal Experiences in Spiritualism, by HEREWARD CARRINGTON (London: T. Werner Laurie, Limited. Pp. 274. Price 7s. 6d. net), is a most amusing and instructive work. Mr. Carrington is interested from a scientific point of view in so-called "spiritualistic" phenomena, and has come to the conclusion that "98 per cent. of the phenomena are fraudulent." He is, on the other hand, convinced that mediums presenting genuine manifestations can be found, and that Eusapia Palladino is one of these. The latter half of his book is devoted to an account of Eusapia's American *séances*. His theory is that the phenomena are due to some force which emanates from her, or from some intelligent will other than hers but manifested through her. His book concludes with a plea for the foundation of a psychical laboratory on the lines laid down by Sir Oliver Lodge in a paper contributed to the *Journal of the Society for Psychical Research* in 1894. The subject certainly needs more investigation. The first part of the book is an account of Mr. Carrington's investigations into various spiritualistic phenomena, which were all proved fraudulent. They form extremely entertaining reading, but it makes for sadness to learn that our race numbers among its members those who can exhibit, as do the believers in these phenomena, such foolish credulity. And one of them was judge of a Probate Court!

Amateur collectors of old furniture, old pottery and glass, embroideries, and so forth, will doubtless revel in *First Steps in Collecting* (London: T. Werner Laurie, Limited. Pp 324. Price 3s. 6d. net), in which GRACE M. VALLOIS chats discursively of "Chippendales" and "Adamses," and
"Sheratons
turning, of
and many c
There is in
anecdote a
chests receive attention, and some quaint recipes are quoted, notably a preventive against the plague (p 311), which consisted of "a quill as is filed up with quicsilver and sealed up with hard waxe and soed up in a silke thinge with a string to ware about your neck." It was not free from danger, though, being "nitty" and liable to affect "one's teth and eies" unless "corked up fust and then seled."

Rearing an Imperial Race. Edited by CHARLES E. HECHT, M.A. (London: Published for the National Food Reform Association by the St. Catherine Press. 1913. Pp. 508. Price 7s 6d. net.)—We commented in THE LANCET of Sept. 14th, 1912, on the proceedings at the Second Guildhall School Conference on Diet, Cookery, and Hygiene held in May, 1912. This volume consists of a full report of those proceedings, to which are added extracts from reports of medical officers of health, reprints of various articles which have appeared in the press, articles on diet by school and other medical officers, accounts of the methods for feeding school children in the United States, France, Switzerland, and Germany, and notice of the objects and methods of the National Food Reform Association. The book contains much useful information, to which is supplied a very full index, and will be found of value in view of the forthcoming Education Bill. ——*Mrs. Edwards's Cookery Book* (London: T. Werner Laurie, Limited. Pp. 303. Price 6*s.* net) covers a large area, giving many excellent recipes, which, however, are not always quite clear, even to an experienced cook. Joints, turkeys, and suchlike are often directed to be roasted for a definite length of time irrespective of weight, and so on. The author's methods are quite different in many respects from those ordinarily accepted, but in judicious hands much could be done with them. There are some good bills of fare for households of varying capacities and recipes for drinks and invalid cookery. The domestic remedies are of a simple household character, and with the exception of one cough mixture containing laudanum appear unexceptionable.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

(1) KEFIR SALIÈRES; (2) EXOL (COGNÉT); (3) AGONOL (COGNET); (4) HEPASUINE ELY; AND (5) ZOMYO BEEF.

(AGENCY: ROBERTS AND CO., 76, NEW BOND-STREET, LONDON, W.)

THESE five French pharmaceutical preparations are all of interest. 1. This kefir, or effervescent sour milk, is prepared after the formula of M. Ch. Salières, which aims at excluding foreign or contaminating bacteria. In other words, the preparation is a culture of a pure ferment or lactose yeast. According to our analysis the kefir has the following composition:—Total solid matter, 4·10 per cent.; protein, 2·64 per cent.; lactic acid, 0·35 per cent.; milk sugar, traces; fat, 0·16 per cent. It is primarily intended for diminishing the activities of the gastro-intestinal flora on the lines laid down by Metchnikoff. It is a satisfactory preparation for the purpose. 2. Exol is an elegant combination of calomel, santonin, and thymol, contained in glutinous globules, which is suggested for use as a specific in the treatment of ankylostomiasis. We had no difficulty in determining the presence of the medicaments indicated. 3. Cognet's agonol is described as a neutral benzoic ether of santalol which surrenders in the body its constituents in a nascent and therefore very active form. It is stated to be destructive of both the gonococcus and its toxins. 4. Hepasuine ely is described as containing all the active medicinal and organo-therapeutic principles of cod-liver oil. It is prepared in the form of an extract from pig's liver. The extract is combined with a syrup of sugar. We found present traces of biliary acids, a decided amount of iodine, arsenic in organic combination (sodium methyl), and hypophosphites. It has uses in connexion with the treatment of tuberculosis and also in disorders of the liver and bowels. 5. Zomyo beef is a clear brown fluid said to be made with beef juice and glycerophosphates. We found present 22·8 per cent. of soluble matters. Amongst these protein amounted to 13·13 per cent. and mineral matter to 5·75 per cent. The mineral matter consisted largely of phosphates derived from the glycero-compound. Its use is indicated in those disorders in which general nutrition is impaired. A large quantity, however, would have to be administered before any appreciable amount of nutrient was given. It is a pre-digested beef preparation containing chiefly albumose and peptone.

IODEX PESSARIES.

(MENLEY AND JAMES, LIMITED, MENLEY HOUSE, 39, FARRINGDON-ROAD, LONDON, E.C.)

The employment of iodine in gynæcological practice has been limited owing to the irritating character of the ordinary preparations. In association, however, with a bland fat, it is stated that iodine can be introduced in the form of a pessary, with satisfactory results. The pessary is contained in an easily soluble gelatine envelope which serves to prevent impairment of the iodine value. On the contents being distributed the iodine is yielded in the free state ready to exert its antiseptic and healing properties. Each pessary contains 2½ grains of free iodine regularly distributed in a neutral base which melts at the body temperature.

EUMENTHOL TOOTH POWDER.

(HUDSON'S EUMENTHOL CHEMICAL CO., LIMITED, SYDNEY, AUSTRALIA. LONDON AGENTS: F. NEWBERY AND SONS, LIMITED, 27 AND 28, CHARTERHOUSE-SQUARE, E.C.)

This tooth powder is designed on sound principles and is very agreeable to use. The distinctive feature about it is that in addition to some approved germicides it contains magnesium peroxide which readily parts with free oxygen, as our experiments have shown. This probably leads to a favourable cleansing action upon the mouth and a slight whitening effect upon the teeth. The powder is finely divided and is free from harmful constituents and gritty substances. Analysis showed that the powder was capable of giving off oxygen equal to 1 cubic centimetre per gramme. This disengagement of oxygen leads to the formation of a pleasant and wholesome foam.

SOLUTION OF DIGIPURATUM.

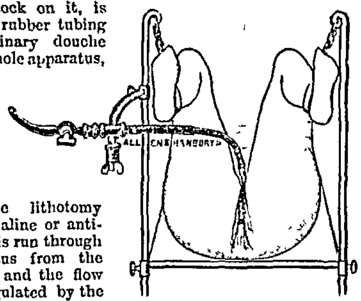
(KNOLL AND CO., 8, HARP-LANE, LONDON, E.C.)

We have referred to digipuratum on a previous occasion, when we pointed out that it was a physiologically standardised preparation of digitalis in which the undesirable principles of the plant had been eliminated and the principles of known activity retained. The solution is, further, stable. It is intended for administration only by the mouth. In order to measure accurately the dosage in *drops* a small bent glass rod is placed in the neck of the bottle. The rod terminates outside in a rounded end, while the end inside is flattened so as to prevent the rod from falling out. This is a very convenient and simple method of obtaining a regular flow of uniformly sized drops.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Hüpeden, of Hannover, an author of various treatises on medical politics, aged 85.—Dr. Ervin Miensowicz, *privat-docent* of medicine in the University of Cracow.—Dr. John Green, formerly professor of ophthalmology in the George Washington University Department of Medicine, Washington.—Dr. Franz, of the Government laboratories, Berlin, formerly of the Physiological and Pharmacological Department of the Imperial Sanitary Office, aged 35.—Dr. Berthold, an eminent Carlsbad physician, who was at one time in practice in London. Many Royal and distinguished persons were amongst his immense *clientèle*.—Dr. E. Guillet, clinical professor of surgery in the Caen Medical School.—Dr. Antonino D'Antona, clinical professor of surgery in the University of Naples.—Dr. L. Kessler, extraordinary professor of gynæcology and obstetrics in the University of Iurieff (Dorpat).

New Inventions.

PERINEAL SPRAY OR DOUCHE.



THIS consists of a flexible metal tube made of pewter which can be easily bent into any fixed position. To one end of this tube is attached a small piece of rubber tubing carrying a glass nozzle, while the other end, which has a stopcock on it, is attached by rubber tubing to the ordinary douche can. The whole apparatus, which can be readily sterilised by boiling, is attached by means of a sliding bracket to one of the lithotomy uprights. Saline or antiseptic fluid is run through the apparatus from the douche can and the flow is easily regulated by the stopcock. If the operation is in the region of the anus the pewter tube is so bent that the glass nozzle points downwards and impinges on the central point of the perineum. If the operation is on the vulva the nozzle is fixed just below the symphysis pubis. From these points the regulated stream of fluid washes away all blood, gives the surgeon a clear view of the field of operation, and saves an assistant from constantly swabbing the wound, and to a certain extent injuring the tissues. It has been found especially useful in operating on hæmorrhoids by Whitehead's method. This apparatus, which is shown in the illustration, was designed by me five years ago at the request of the late Sir Frederick Wallis. It has been in use at St. Mark's Hospital since that time and has given the utmost satisfaction. Care must be taken in bending the pewter tube to do so always at the nozzle end and not near the joint at the bracket.

The apparatus is made by Messrs. Allen and Hanburys, Limited, Wigmore-street, London, W.

Harley-street, W. H. GRAEME ANDERSON, F.R.C.S. Eng.

DECEMBER, 1913, AT HOME AND ABROAD.

The Weather at Home.

UNTIL after the middle of the month the weather was unusually mild for the time of the year throughout the British Islands, the wind being constantly between south-west and west, and often blowing a gale on various parts of the coast and sometimes with considerable force inland. During the latter part of the period, however, the wind shifted round to north-west and north, and very occasionally died out altogether, the effect on the temperature being most marked. In the northern half of the kingdom the frost was intense, and in the south and south-east the thermometer [illegible] degrees below the freezing [illegible] for the whole month was, [illegible] December in almost all parts of the kingdom. A mild December generally means a wet one, but last month formed an exception, as the total rainfall was below the normal, the deficit being very large in many districts. In the metropolitan area, at K[illegible] was 45·5°, in excess [illegible] minimum was 38°, [illegible] ht saw the sheltered thermometer rise to 50° or above on several occasions, the highest figure being 54° on the 12th, but after the 22nd it seldom rose to 40°, and the minimum readings were mostly below 32°, the lowest of all being 28° on Christmas morning. The rainfall, which was just below an inch, fell on 14 days, and was just an inch below the normal, while the sun, which only shone *on 14 days, yielded* a total of 41 hours, an excess of 5 hours. Nottingham and Bath were both nearly 2° colder at night than Kew, and the former was slightly colder during the daytime also. Bath, however, *with a mean maximum of 47°, had warmer days than* the metropolitan station. The extreme south-west of England maintained its reputation for mildness and equability. At Newquay the mean maximum was 48·2°, and the mean minimum 42·7°, while at Torquay the corresponding figures were 49° and 41·5°. The Scilly and Channel Isles were milder *still. At both places the mean afternoon* maximum was 50° and the mean minimum of the nights about 43°. The south coast, as represented by Brighton and Bournemouth, had a mean maximum of 47°, while the minimum was 40° at Brighton and 39° at Bournemouth. The duration of sunshine varied a good deal in different parts of the kingdom. In the Midlands there was little, the figure at Nottingham being only 15 hours, or no more than half the normal, but Bath had 45 hours, Newquay 47 hours, and Scilly 41 hours. Brighton, Jersey, Torquay, and especially Bournemouth, were more sunny, the general figure being about 55 hours, and that at Bournemouth exceeding 60 hours. The rainfall varied considerably in the south-west. At Torquay, where the total was 2·1 in., there were only nine rain days, but at Newquay the total equalled 3·9 in., and was contributed by as many as 18 days. Scilly had 20 rain days, giving an aggregate of 3·9 in., and Jersey 15 days, with a total of 3·5 in. All these totals are below the normal, that at Torquay being 2 in. below. The frost at the end of the month was felt along the south and south-west coasts generally, but at Scilly and Jersey the sheltered thermometer fell no lower than 33°.

The Weather Abroad.

On the continent the weather was not cold for December, but colder than in the south and south-west of England. At Paris, Brussels, and Berlin the mean maximum temperature was 42° or 43°, and the mean minimum 33° at Paris, 34° at Brussels, and 35° at Berlin. The most severe frost was experienced in the eastern and central parts of France. At Paris the thermometer in the screen descended to 18° on the 22nd and 23rd, and to 22° on the 24th and 31st, and at Brussels it went nearly as low on the same dates. Berlin, however, was not so cold, the lowest temperature being 21° on the 19th. Berlin was, nevertheless, more wintry at the end of the month, when an unusually heavy fall of snow occurred. During the month as a whole Berlin had been rainy, the gauge yielding at least as much as 0·04 in. on no less than 20 days, amounting to an aggregate of 4·6 in. At Paris, on the other hand, there were only eight days with rain, giving a total of 2·6 in., and at Brussels 18 days, with a similar total. Many days at the French capital were sunless, and the total number of hours for the month was no more than 46 hours. The extreme south-east and south-west of France, as represented by Nice and Biarritz, were colder at night than the south-west of England, both resorts having a mean minimum temperature of 40°. The days were, however, warmer, the mean maximum at Nice being 54° and that at Biarritz 49°. Neither place entirely escaped the frost at the end of the month, although its visitation was transitory. At Nice the month generally was bright and sunny. Only six days brought rain, and the total fall was no more than 0·7 in., but at Biarritz rain fell on twice as many days and gave a total three times as large. Throughout Italy the weather was mostly fine, but frost was experienced at times as far south as Rome, and the temperature of the northern half of the country was usually lower than on the Riviera. Even Naples had some cold days, although as a rule the temperature was about midway between 50° and 60° during the afternoon. Madeira remained unaffected by the cold snap that visited the south of Europe. At Funchal the sheltered thermometer rose to 70° or higher on no less than 18 days, and fell no lower than 57° on as many nights. The mean maximum temperature was as high as 69° and the mean minimum 57°. The weather was also very fine as well as warm. *On only* five days was there rain, and the total fall, 2·0 in., was nearly all contributed by the 21st and 26th. Comparing the December mean temperature with that in the south of England, it may be said that Funchal was as warm as Brighton is in an average June during the day, and about as warm as an average July at night.

FOURTH ANNUAL MEETING OF CLINICAL CONGRESS OF SURGEONS OF NORTH AMERICA.

(Concluded from p. 131.)

ON Nov. 12th Dr. J. M. T. FINNEY, of Baltimore, read a paper on

Pyloroplasty.

During 14 years in which he had practised it, he said the immediate as well as the final results had been most encouraging. Although gastro-enterostomy and gastrectomy had a greater vogue, he believed that the simplicity and satisfactory ultimate results of pyloroplasty constituted it a safe and useful procedure.

The Treatment of Cancer.

On Nov. 13th Dr. THOMAS S. CULLEN, of Baltimore, read a part of the report of the Cancer Campaign Committee of the United States. He prefaced his remarks by saying that few surgeons had sufficient radium to give it a thorough trial, for extensive doses sometimes cured when smaller ones had little effect. Dr. Cullen advocated the standardisation of radium. Only time would show the extent of its utility. Surgery at present offered the best chance of cure. Instruction of the people in the nature of cancer would lead them to seek surgical aid. In this work the lay press had rendered good service. He urged the extension of lectures in women's clubs, factories, and elsewhere, the keeping of accurate records, and analysis of hospital statistics. Surgical pathologists must aid in diagnosis, and radical operation on diagnosis be urged. The frequency of uterine cancer was emphasised and its symptomatology discussed. Permanent relief followed operation in from 20 to 25 per cent. of cancer of the cervix, and in cancer of the fundus two-thirds were cured. These successful results would be greatly increased when women learnt to understand their condition and submit to early operation.

Dr. EDWARD REYNOLDS, of Boston, spoke of the American Society for the Control of Cancer—a body composed of prominent medical men and influential laymen. It was perfecting an organisation of national scope for the enlightenment of the public. It had already been guaranteed the large amount of money necessary. It intended to coöperate with all the existing organisations in the study of cancer.

Dr. FREDERICK R. GREEN, of Chicago, read a paper on the Education and Publicity of the Campaign by means of the Council of Health and Public Instruction of the American Medical Association. He said that the first thing was to interest the public, and especially the wealthy and influential public, in the problem of the control of cancer. The second necessity was the careful investigation of the entire problem of cancer. There was to-day in the records of the different hospitals of the United States an enormous mass of undigested material on the subject. The third requirement was the distribution to the public of the results of such an investigation. This was obviously a task for the *Council of Health and Public Instruction* of the American Medical Association.

On Nov. 14th Sir W. ARBUTHNOT LANE gave some further observations on

Intestinal Stasis.

He referred to the circumstances which led him to remove sections of the large bowel for chronic intestinal stasis. This condition, he said, was one of the most formidable causes of misery. Several patients had attempted to commit suicide on account of it, and in all such cases the removal of the large bowel had restored the sufferer, not only physically but mentally. He quoted Dr. James Mackenzie as saying that a mass of the degenerative changes of the heart were due to auto-intoxication. Dr. Mackenzie had sent him a patient upon whom he operated with the greatest benefit to the cardiac condition as well as to the patient's general well-being.

Dr. ROSWELL PARK, of Buffalo, read a paper on

The Relation of the Ductless Glands to the Work of the Surgeon,

in which he referred to the fact that the internal secretions, or hormones, exercised an apparent controlling influence on many of the organs and functions —and this not only on the ordinary body functions but on the nutrition and regulation of individual organs and their particular activities, even to the extent of becoming responsible for the development of certain mental traits or personal characteristics which might make or mar the individual. He pointed out that even to-day there was much to learn concerning the functions of the thyroid. It seemed to have an influence on the formation of the blood. Its most important work appeared to be elaboration of iodothyrin. Certainly iodine was its most important constituent, and the thyroid was richer in it than any other organ. The parathyroids had only within late years received proper consideration, but in that short time had attained an importance in pathology in inverse ratio to their size. It was now generally believed that nearly all cases of tetany in man were due to defective thyroid function. The thymus seemed to have much to do with the development of the entire bony system; when its activity was reduced ossification was much interfered with and proceeded irregularly and from scattered points; sometimes it failed utterly, as when the first pair of ribs failed to ossify and the other ribs were left weak and subject to early deformity. We could scarcely do more than transplant the parathyroids. The thymus we might have to extirpate or transplant. Transplantation of adrenals had met with questionable success. Removal of the genital glands was rarely demanded for the conditions under present consideration.

Dr. CHARLES H. MAYO, of Rochester, Minnesota, read a paper on

Goitre.

He reviewed the various methods of treating goitres. Regarding exophthalmic goitre, while the disease was amenable to surgical treatment by the removal of a large part of the hypersecreting gland, this procedure must not be considered emergency surgery. During exacerbations all cases should be considered medical. Surgery was indicated during the upward wave of improvement.

Several other papers of value were read. The following officers were elected:—President, Dr. John B. Murphy, Chicago; Vice-President, Dr. George E. Armstrong, Montreal; secretary, Dr. Franklin H. Martin, Chicago; treasurer, Dr. Allen B. Kanavel, Chicago. It has been decided to hold the next meeting of the Congress in London during the fourth week in July, 1914.

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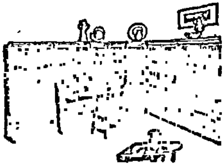

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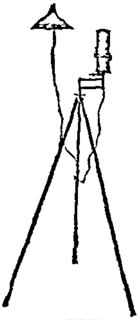

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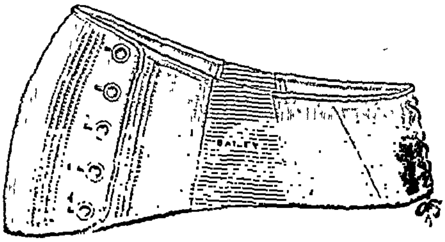

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LONDON: SATURDAY, JANUARY 17, 1914.

Some Points with Regard to a State Medical Service.

THE difficulties which have arisen in working the panel system under the National Insurance Act may have been magnified, but are none the less real; and the financial conditions which are affecting Approved Societies, owing to the calls upon their resources for sickness benefit, have contributed to bring into some prominence before the general public the question of a State Medical Service. Whether the public has been aroused to any great degree of interest or no, does not alter the fact that we have here a question which affects it no less closely than it does the medical profession. Frequent opportunities have been afforded recently to read observations upon the subject in the lay press, and we may refer here to a temperate and clearly written article which has appeared in the *Morning Post* as indicating the points with which the public must concern itself, if any change in present conditions should come within the scope of practical politics. At the present time there appears to be some misunderstanding of the subject on the part of the public, or the institution of a State Medical Service would hardly have been put forward at meetings of the managers of certain Friendly Societies, with the suggestion that in some manner there would follow upon this drastic revolution of existing procedures a diminution of expenditure upon sickness benefit. This might indeed be brought about by placing all medical treatment in the hands of medical officers appointed by the societies, but we do not conceive that the officers of a State Medical Service would occupy any such position. Their responsibility for the welfare of their patients would be enforced by the superior officers of their own service, and their competency would be tested by the efficient performance of their professional duties, and would not be considered proved by economical advice upon pecuniary matters. This we take to be the view also of Sir JOHN COLLIE, who on Monday last at Caxton Hall argued in favour of a State Medical Service as a substitute for the panel system. In all the circumstances it is not surprising that at the recent conference of Friendly Societies a proposal that there should be a State Medical Service was rejected by a substantial majority.

The establishment of such a service would affect a very much wider public, and one more likely to be critical of the possible medical advantages than those responsible for Friendly Society finance. The members of the societies at present, in contradistinction to the managers of the societies, seem to be well contented, as a rule, with the medical service provided under the National Insurance Act; they do not find fault with the increased expenditure on sickness benefit as long as they are its recipients, and they are also willing to avail themselves of that which the medical profession unanimously declared they ought to have—namely, the free choice of doctor. It is true that this freedom of choice only exists to a limited extent, and it is true also that in some localities it is being threatened, as our Special Commissioner has shown in more than one of the articles in which for the past year he has been reviewing the working of the Acts; but in districts where most of the medical practitioners are on the panel it does exist in a substantial degree. In London, where the number of medical men on the panel is relatively small, and was at one time smaller still, the desire of the working man to choose his medical man for himself is proved by the accumulation of a fund in respect of unallotted patients so large that its bulk has created a difficulty in disposing of it, a difficulty which we cannot help thinking has been much exaggerated. While, then, the public and the medical profession are largely at one, as far as the working of the existing National Insurance Act is concerned, in maintaining the principle of permitting to all sick persons the right to choose their medical attendants, it will be necessary for those who advocate the establishment of a State Medical Service to show how under any scheme of the sort a similar discretion could be given to a far greater public. The development of national health insurance which many expect, and which some consider inevitable, is the extension of medical benefit to the dependents of those now insured. We have seen it estimated that this would bring under the State medical treatment provided by insurance about 40 million out of 45 million inhabitants of Great Britain, and without doubt the numbers would be so large that a scheme of medical service to meet their wants would be almost equivalent to a State Medical Service. But why should these women, on behalf of themselves and of their children, be less tenacious of the right of free choice than their husbands are already? In fact, we should say they would be much more so, and that men being in many conditions of life accustomed to be attended by, and to obey, the particular medical officer appointed for them are familiar in a way which women are not with the principles of regimented service. As matters now stand freedom of choice is enjoyed in different degrees by the whole population. It is exercised most absolutely by the rich, who can go wherever they like in order to consult whomsoever they like; and in great degree by those many others who are, however, restrained by pecuniary considerations from exercising their selection except in their immediate neighbourhood. In less degree still it is enjoyed by those who unless they choose to pay twice over, as insured persons and as private patients, have to consult medical men on the panel of their district, revising their choice at stated periods only. The inhabitants of any district can, however, do for themselves to some extent that which under a State Medical Service would be out of their power. They can by giving general proof of their confidence retain the services of a medical attendant whom they esteem.

A man who has built up and is increasing his practice with marked success is not likely to leave it readily. But under a State Medical Service a medical officer enjoying a fixed salary for the performance of a stated amount of service, would from time to time earn promotion and be anxious to obtain the emoluments of a new and better post. He might be deservedly esteemed by his patients, but his success in treating them would, if anything, conduce to shorten his stay among them, and his removal to a superior position elsewhere would lead to the appointment of another officer, selected, no doubt, with some care for their benefit, but selected entirely by others. The exercise of free choice of a medical adviser is valued in different degrees by different individuals and by different classes, but we can hardly conceive that the large body of those now affected by the Insurance Act who before were not members of Friendly Societies, or who as members conditionally exercised that right, will acquiesce without protest in any attempt to deprive them of it. Moreover, it may be pointed out that members of the legislature are as free to select their medical advisers as they are to select their legal or spiritual advisers, and that they would find it difficult to justify the application to others of a compulsion which they would resent if applied to themselves. The free choice of a doctor is the matter upon which everything turns. That a State Medical Service might offer an alluring prospect to many young men entering the medical profession cannot be denied. The prospect of the possible institution of such a service is a matter of grave importance to the profession and to the public, and its discussion from every point of view is desirable. For this reason we have dwelt upon what we conceive to be certain important practical points; the acceptance or rejection of any innovation by the public when expressed through the ballot-box will probably be influenced by considering the same points. Some form of State Medical Service may arrive, but the difficulties ahead are solid.

Radium and Cancer.

PERIODICALLY the influence of radium over cancer comes under public attention in some form or another through the agency of the lay press, as well as in the columns of medical journals, and the reasons for the enormous attraction of the subject for laymen are clear. On the one hand, we have a fatal disease with such a prevalence that a large proportion of the population have first-hand knowledge of its ravages while in some directions that prevalency seems to be increasing. On the other is a newly discovered element having remarkably fascinating properties, not the least of which is that of inhibiting the growth and development of living cells. About the working of radium we know a good deal. Abnormal cells are more susceptible to its influence than normal ones, so that what may be destructive to the one class is no more than a stimulant to the other. These are the principles which form the basis of the radium treatment of cancer, and they have been known to radiologists for some time past. Take the instance of a small superficial epithelioma; there are now numerous cases of such being cured by a few properly adjusted applications of radium, and there has been no recurrence after some years in cases where but one application was made. This much may be definitely stated, but we are on less safe ground if we say further that all such cases may be cured by the same means. Some carcinomatous conditions arising on a moist mucous membrane, as that of the mouth and tongue, have so far given very poor results from radium or X ray treatment. Furthermore, it may be assumed that the action of radium and the X rays is almost, if not entirely, local, and it is only the malignant cells receiving efficient radiation that are destroyed. The successful treatment of a malignant tumour requires a sufficiency of radium so disposed as to irradiate effectively all the cells of the growth, particularly the advancing margin; it is necessary also that metastasis should not have commenced, for at no stage will radium or the X rays give us control over this unfortunate property of most malignant neoplasms.

Now everything about radium in connexion with the treatment of cancer, that we can as yet be reasonably sure of, has been known to radiologists for a considerable time, and in view of the wide publicity that is suddenly being given to the subject it is inevitable that medical men should ask whether the facts have been multiplied, or whether any new principles have been discovered. The answer is, we think, in the negative, and we therefore find it regrettable that medical men should encourage the publication of a contrary view in the lay press in the absence of any advances that have stood an adequate test of time. No one but a medical man, or a man with considerable knowledge of physics, can properly assess the value of the statements which have recently been made public, and the tendency of the layman has been, we fear, to read into these communications that which he wishes to believe. In many instances grievous disappointment and serious financial embarrassment have been needlessly added to the sufferings of the victims of malignant disease by the publication of ill-understood medical evidence, and deeply interested as we are in the splendid work now being done by radiologists and surgeons with the new machinery at their disposal, we should much deplore this happening in connexion with such work. The crucial question is, How many cases of undoubted and inoperable malignant disease have been completely relieved by radium treatment, and have remained apparently cured sufficiently long to give reasonable hopes of permanent relief? The number must be small, we think, and the permanent relief probably only occurs where the circumstances are unusually favourable. Up to the present radium has brought us little, if any, nearer to the discovery of a definite *cure* for malignant disease, and we feel that our science is not benefited by allowing enthusiasm to outrun discretion. At the same time, we are glad to be able to record considerable advances in practical radium therapy. With larger supplies of radium, and greater experience in applying it where it can do the most good, an increasing number of cases are being relieved and remaining well for a longer time. Far more progress would have been made if all malignant growths of any given variety reacted to radium in a similar manner. But cases apparently alike may give opposite results to the same treatment, and though this may be overcome by improved technique the difficulty is a serious one. It serves to show as much as anything else how very imperfect is our knowledge of this mysterious disease. And could there be a better reason why workers in a promising field should be guarded in their public utterances? We want, before anything is said in public that may lead to bitter disappointment, far more clinical records than we yet possess. The results of cases must be collated and methods must be compared, for which time is required. This we understand to be the feeling also of the Radium Institute, where wards will shortly be opened in extended premises, and where the best of additional opportunities for observation will be afforded.

Regarding the results reported from the cancer research department of the Middlesex Hospital, no stress should be laid upon Dr. LAZARUS-BARLOW'S recent statement. It is that of a pathologist having no responsibility for the treatment of any patients, the figures given are incorrect, and the statement has been repudiated by the surgical staff of the Middlesex Hospital in the columns of the *Times*. With an adequate supply of radium and a series of cases accessible and susceptible to its action, good results are easy to understand, although highly creditable to those who carry out the treatment. But the time has not come for any public announcement, however guarded, pointing to radium as a *cure* for cancer, while any statement of results obtained at a hospital should clearly come from the medical staff who carry out the treatment and watch the results. The rarity of radium limits the number of cases, and for a time all public utterance that is not very carefully worded may be harmful. The present price of radium is probably artificially inflated, but we must remember that the conditions are unusual, and, as anyone who has had much experience of metallurgical chemistry will understand, the isolation of a grain of precious metal from two or three tons of ore is of necessity a prolonged, expensive, and tedious operation. For example, it will require a method of separation very different from that in use at present to enable radium to be sold for a few shillings per milligramme, as has been suggested by Dr. LAZARUS-BARLOW. Also, when we consider that manufacturers can dispose of all they can make for months in advance, and the absence of any reason why the law of supply and demand should not apply in this as in any other commodity, it is difficult to see how the present price can be materially altered until the sources of supply have been extended, and methods of extraction greatly simplified and accelerated. It is noteworthy that an English firm was prepared to supply pure radium bromide at less than £15 per milligramme to some London hospitals. The offer was not accepted and the whole amount, including the output for several months ahead, has been disposed of to Germany at the current rate of about £20 per milligramme. Already we are promised more extensive supplies from Cornwall and simpler methods of extraction are said to have been discovered. If these prospects materialise the outlook for a larger and cheaper supply becomes very bright. In the meantime, we should not allow our enthusiasm for radium to make us forget what we owe to the X rays. In the treatment of accessible growths it is doubtful if radium has any advantage over the X rays properly applied; indeed, it is a question if the X ray tube has yet been used to its full advantage for the treatment of malignant disease. We appear to be on the eve of some radical improvements in the construction of X ray tubes, and if these give us the complete control over the quantity and quality of the radiation that is promised we may confidently look for important advances in radio-therapeutics.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (Johns Hopkins University):* An arrangement has been made with the University of Breslau for a temporary exchange of teachers, Dr. Felix Landois coming for a semester as assistant to one of the professors (Dr. Halsted), while Dr. Geo. Heuer, who holds that position, goes to Breslau to fill a similar post.—*Basle:* Dr. Eugen Bernoulli has been recognised as *privat docent* of Pharmacology.—*Berlin:* Dr. L. Lesser, professor of dermatology, has been appointed Professor in the Kaiser Wilhelm Post-Graduate Academy; Dr. George Arndt, *privat-docent* of Dermatology, has been granted the title of Professor.—*Breslau:* Dr. Karl Ludloff, surgeon to the orthopædic department of the Surgical Clinic, has been promoted to an Honorary Professorship; Dr. Julius Schmidt, *privat-docent* of medicine, has been granted the title of Professor.—*Budapest:* Dr. Hari, *privat-docent* of medical chemistry, has been appointed Extraordinary Professor.—*Buenos Aires:* Dr. O. Bonorino Udaondo has been appointed Extraordinary Professor of Semeiology.—*Copenhagen:* Dr. V. Schaldemose, Extraordinary Professor of Surgery, has been promoted to Ordinary Professor.—*Florence:* Dr. Francesco Casagli has been recognised as *privat-docent* of Surgical Pathology.

Annotations.

"Ne quid nimis."

THE PROTECTION OF PRECIOUS POSSESSIONS AGAINST FIRE.

ONE by one some of our most interesting national possessions are being lost by fire, and unless measures are taken for the prevention or suppression of fire we may count on losing more. During the past year or two the destruction of several noble historic buildings by fire, together with their contained treasures, has led to a widespread feeling of dismay, and yet no serious or practical attempts appear to be made to prevent these recurring disasters. Every time it is the same story—"there was no water-supply," or "the local fire-engine was not powerful enough to extinguish the flames," or "the only available water-supply was a small pond, which was soon exhausted." Last week the beautiful mansion known as Great Barton Hall, near Bury St. Edmunds, was destroyed by fire early in the morning, and the newspapers have recorded that "the guests (a large house party was being entertained) lent valuable aid in saving famous pictures; but as there was no water-supply the building was burnt out." We commented exactly ten years ago upon the apparent indifference to the results which may follow outbreaks of fire in our historic homes. The occasion then was the destruction by fire of Hanley Castle in Worcestershire, the owner of which, Sir Edmund Lechmere, had lost also by fire a few years previously the ancient mansion "Severn End." This last house, which was one of the oldest in the kingdom, not only contained an interesting museum, but also what we believe was extremely rare, an ancient laboratory, where no doubt bygone members of the distinguished family pondered on alchemical problems, the foundations of which modern research seems to be doing something to rehabilitate. We then asked whether anything could be done to stop this destruction of priceless possessions. We also expressed doubt whether the custodians of country mansions were equal to the task allotted them. We again urge on all placed in a responsible position as owners or guardians of such properties to see that the custodians have both the mental and bodily qualifications as well as goodwill for their important charge. We recommend this matter also to the earnest attention of the British Fire Prevention Committee, which is doing good service by suggesting measures for the prevention of loss of life and property by fire. They would earn the nation's deepest gratitude if they would take up this question of the inadequacy of preventive measures which nearly always proves to exist when our great historic buildings are destroyed by fire. Last week they did well to call attention to the unsatisfactory character of certain portable chemical fire extinguishers. The committee possess records of seven fatalities from certain of these extinguishers bursting, and they pointed out that there is at present an unfortunate tendency to put various types of "cheap-jack" appliances on the market which are not only unreliable but dangerous. We entirely agree with the committee, that the method frequently adopted for selling such wares in our country towns and villages, with the aid of faked demonstration tests, calls for a very decided warning.

THE TUBERCULOSIS CAMPAIGN IN RELATION TO THE EVOLUTION OF SANITARY SCIENCE.

IF the results of the tuberculosis campaign, which has now been initiated in all civilised countries, were limited to the great improvement that is taking place everywhere in relation to the incidence and fatality of that disease alone, the campaign would have amply justified itself. But every specialised advance in science paves the way for a general improvement, and that this is particularly so in this case is made clear in an interesting article by Dr. Hermann M. Biggs and Dr. Charles F. Bolduan,[1] who are drawing their material for argument from American sources. The authors point out that the close student of public health in the United States has for some time seen in the development of this campaign the genesis of a new conception of public health administration and the consequent introduction of new methods of work. Twenty-five years ago, when this campaign was begun in America, the efforts of public health officials were centred in such general problems as pure water supplies and sewage disposal, removal of rubbish, abolition of nuisances, and efforts to abate the spread of the more readily communicable diseases, with some attempt at quarantine and disinfection. The first step towards an enlarged scope was the natural consequence of Koch's discovery of the tubercle bacillus, which pointed the way towards the discovery of the nature of infections and a more accurate knowledge of transmission of infectious disease. With this knowledge coordinated action became possible, and three main lines of effort emerged, tending respectively to the discovery of cases and the study of the problems involved (notification and registration, home visitation, provision of diagnostic facilities, and educational work); special care of the cases found (by institutional and social means; and the securing of the greatest efficiency of the medical and social preventive measures through organisation and coördination of the various agencies. Much the same history holds good, of course, when told in connexion with any of the great civilised states of the world. And in the same way as the extent and manner of distribution of tuberculosis have grown clear those of other diseases are becoming known; the underlying causes of infection are being discovered and dealt with at the source and along their lines of distribution. The recognition of the fact that tuberculosis is not a mere bacterial invasion but rather a symptom of social pathology is now finding its extension towards other diseases, we may give as an example the acknowledgment of venereal disease as a social and not merely a medical problem. The laboratory assistance in diagnosis offered for many years in connexion with tuberculosis is now extended to many other diseases, and will in the near future extend to many more. The importance of helping the diseased sufferer not merely for his own sake but as a measure of self-protection for the community will be more rapidly acknowledged and acted upon by the establishment of various kinds of institutions necessary for isolation, support, domiciliary supervision, and what not. Medical inspection of school children is taking on a vastly wider extension, not simply confining itself to checking the spread of infectious disease but aiming at the building up of a physically, mentally, and morally more perfect race. During the last 50 years the duration of life in many of the large cities of the world has been extended 25 per cent., and it is patent to everyone that the man of to-day at 60 years of age is quite frequently in the prime of life. Perhaps the modern mental attitude has to do with this. We have ceased to think that our life's work is approaching its term at 60, and so when that age comes we do not notice any great difference between that age and 50, or even 45. Not to recognise the disabilities of age is one important factor in warding them off. We do not mean that a man should ignore limitations to his powers which objective evidence demonstrates to be present, but we are certain that he should not encourage their advent by expecting them as due at a certain period of life.

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[1] The Tuberculosis Campaign: its Influence on the Methods of Public Health Work Generally. By Hermann M. Biggs, M.D., and Charles F. Bolduan, M.D. Department of Health of the City of New York Reprint Series, No. 8, August, 1913.

TROPICAL DISEASE RESEARCH.

Mr. Austen Chamberlain, M.P., is to be heartily congratulated upon having collected £71,000, to which £1000 interest must be added, making in all £72,000, for the fund which he initiated on behalf of the London School of Tropical Medicine. Although this sum falls short by £28,000 of the amount originally asked for, it is a substantial and generous response to the appeal, and as it will provide for the immediate necessities of the school the closing of the fund has naturally followed. From a circular letter to the subscribers we learn that the new buildings have cost £15,000, and that very efficient labor
modation for stude
original research .
being the amount devised by the late Lord Wandsworth to be used at the discretion of Sir William Bennett, who placed it at the disposal of the school, and £6000 have been invested, the income of which will provide beds for tropical cases. The remainder, a little more than £40,000, has been invested in trustee securities, and the income thereof has been made available for the general purposes of the school. It will be remembered that the appeal for £100,000 was made with the object of providing a modest but adequate endowment fund; to make necessary additions to the laboratories and buildings; to provide for the active prosecution of research; and to furnish a certain number of beds for civilians who could not afford to procure for themselves the special medical and surgical treatment required by patients suffering from tropical diseases. These objects have now been secured, but although the fund has been closed further donations are necessary if the remarkable results which have already attended research in tropical medicine are to be continued. And it is not only in the promotion of health that the achievements in this department of medicine have been so remarkable, but also in commerce and all that concerns the expansion of our Empire. The object should therefore appeal to every member of the community, and especially to commercial men whose interests are widely affected by our knowledge of tropical diseases. The possibility of the introduction of yellow fever into India in consequence of the opening of the Panama Canal is one of the latest problems with which tropical disease research is having to deal, and this is only one of the many that may occur in the future. It is, therefore, of imperative importance that such research should not be hampered by want of money. We confidently hope that, although Mr. Chamberlain's fund on behalf of the London School of Tropical Medicine has been closed, further donations will be forthcoming, and that there will be no check to the progressive advance in our knowledge of those diseases which not only affect the health of the people but also the commercial stability of the Empire.

A SPECIAL DIPLOMA FOR SCHOOL DOCTORS.

THE December issue of the *Journal of State Medicine* contains an article by Mr. J. R. R. Trist on the Medical Inspection of School Children and Medical Education, in which he draws attention to the practice of education authorities in demanding a public health diploma from candidates for appointments in connexion with school inspection. The practice follows logically on the general recognition of school hygiene as a department of public health, but Mr. Trist considers that "the time has come when medical educational authorities may well draw up a course of study and prescribe an examination for a 'diploma in school medicine,' which shall include a part of the curriculum for the D.P.H., and also be such as to give evidence of a knowledge of disease in children." It is certainly desirable that local authorities should pay more regard to a knowledge of children's diseases in candidates for school medical appointments, and if any such examination is instituted as Mr. Trist suggests it should include a section devoted to the medical-social side of the subject. The work of care committees and the coöperation of doctors with many and varied social organisations which have to do with child welfare form an increasingly important part of a school medical department. To lack the power of coöperation and the knowledge of organisation necessary for this work is to fail partially in getting good results from medical inspection. Mr. Trist mentions as special departments of knowledge in which a medical inspector should be expert, or at least have a thoroughly good understanding, dermatology, ophthalmology, otology, neurology, and orthopædics. While agreeing in the main with this statement, it is necessary to add that this knowledge must be tested and brought into the perspective of school inspection by attendance at a school clinic. The ordinary hospital out-patient clinic gives quite a false impression of the relative importance, from the school point of view, of various ailments and "defects." There is also another department of knowledge in which the school doctor should be well equipped, and that concerns the feeding of children. Probably in no other department of practice is the medical profession so badly equipped as in the department of dietetics. Laboratory physiology is of very little practical use, and the grave contradictions found between different "authorities" on diet point unmistakably to the conclusion that our present knowledge is of very little worth. And among large classes of the population the question of clothing is of hardly less importance than that of feeding. To suggest that the school doctor should not only be expert in various special departments, but also the possessor of social tact and be something of a cook and a tailor, is in truth only to suggest that he should enter fully into the spirit of his duties. The school doctor cannot rest content until there is a permanent improvement in the health of the child population of the country, and everything which appertains to that is within his province. And to help toward the better equipment of the school doctor it seems probable that something on the lines of Mr. Trist's suggestion will have to be considered, but to be valuable the examination should cover everything within the sphere of influence of the medical inspector of schools.

ARTERIO-VENOUS ANEURYSM OF THE SUPERFICIAL FEMORAL VESSELS.

THE discovery at necropsy of lesions which had given little or no trouble during life has proved a corrective to the spirit of gloomy prognosis which is apt to dominate those who, as in the case of hospital physicians and surgeons, spend a large part of their lives in the contemplation of mortal disease. Malignant growths that have been known to exist without giving rise to trouble for many years, in patients who eventually die from something else, impress upon the mind of the clinician the same golden lesson that there is no such thing as a hopeless outlook. In the *Journal of the American Medical Association* for Dec. 13th of last year there is an account of a case of arterio-venous aneurysm, the most noteworthy features of which were the extent of the lesions, their long duration, and the unimportance of the symptoms to which they gave rise. The patient, a medical man aged 63, was admitted to St. Luke's Hospital, New York, with symptoms of cardiac breakdown which proved fatal in a week. In addition to the symptoms and signs proper to the cardiac disease there was a tumour in the left groin, of the size of a hen's egg, exhibiting expansive pulsation, over which a continuous bruit with a systolic emphasis could be heard. It was said that 18 years previously he had been wounded in the thigh by a small-bore rifle bullet, but that since that date he had travelled much in South America and spent a good deal of his time in the saddle. As Dr. A. B. Eisenberg, who reports the case, remarks, this strenuous life could not have been borne had the patient suffered much from the aneurysm. At the necropsy it was found that the bullet must have perforated the superficial femoral artery and vein about two and a half inches distal to the origin of the profunda femoris artery; both vessels had been completely traversed, and the points of entrance and exit lay exactly opposite each other. The adjacent portions of artery and vein had been incorporated with each other, the corresponding perforations persisting in the form of a communication about a third of an inch in diameter. The other hole in the artery established a channel between the vessel and a small, thick-walled aneurysmal sac. There was probably a corresponding venous sac; but this part of the specimen was damaged in the process of removal, and could not be accurately observed. Both artery and vein were thickened and dilated for a short distance below the communication, and markedly so above it; constricted by their passage beneath Poupart's ligament, they were dilated again above it, and so much contorted that this portion of both vessels was more than double the normal length. Just above Poupart's ligament the vein dilated suddenly to form a thin-walled sac, nearly three inches in length, and about two and a half inches in diameter. In spite of these extensive lesions which, as Dr. Eisenberg expresses it, crowded the pelvis, there had been no urinary or rectal symptoms, though both ureters were moderately dilated.

NEUROTIC RAILWAY WORKERS.

THE report of Major Pringle, the Board of Trade inspector, on the collision which occurred at Waterloo Junction Station on Oct. 25th, 1913, and was attended with serious loss of life, attributes the accident to faulty judgment and lack of caution on the part of one of the signalmen. This finding, taken in conjunction with the results of inquiry in some other accidents of recent date, will strengthen the view that in the interest of public safety there is need of a somewhat more complete and more stringent medical supervision of railway employees than exists at present. Defects of colour perception are recognised as a disqualification for the railway service, and tests, if not wholly satisfactory ones, are regularly applied for their detection; but, as this accident shows, a defect in inhibitory power or a weakness of attention may be a disability quite as serious in its consequences as the failure to distinguish the sensations of red and green. It is, doubtless, quite true that the qualities found wanting in the Waterloo signalman are not susceptible of very exact measurement even by the most elaborate methods of psychological examination, but these methods might at all events furnish the data for a rough estimate of the nervous aptitudes of a given individual, from which his fitness or unfitness for certain sorts of work could be inferred with some degree of probability. And investigation by such methods might also throw light on the influence which the conditions of his occupation exercise on the railway worker's efficiency. The practical importance that may possibly attach to this latter point is shown by the reference in the inspector's report to the suggestion, which he seems to admit in a qualified way, that the sameness and routine character of the work in a busy signal box tend to deaden the capacity for thoughtfulness, and may thus help to bring about such rash and hasty action as was responsible for the Waterloo accident.

THE FUNCTIONS OF THE NOSE.

IT is generally agreed that the functions of the nose are connected with the sense of smell, respiration, taste, and phonation; but this view has been challenged by Dr. Owen F. Paget, medical officer of health of Fremantle, Western Australia, who wishes to prove that the most important function of the nose is to filter the inspired air, and that all other uses to which it may be put are merely subsidiary to this. He holds that nearly every healthy man has lost the power to breathe through the nose, and he explains this by the fact that in inspiration the sides of the nose collapse and the passage is blocked, and this occurs quite apart from any abnormality such as deviation of the septum. This collapse he ascribes to a loss of power of the nasal muscles from disuse, for he believes that all the muscles of the nose except the depressor alæ nasi act as dilators of the nostril. If by one means or another respiration even when hurried could be completely nasal, he believes that pneumokoniosis and allied disorders would be abolished, and that there would be an enormous diminution in pulmonary tuberculosis, pneumonia, and influenza.

We regret that the exigencies of space prevent our presenting Dr. Paget's views in full, but we have given above a brief summary of them. His suggestion is interesting, and will no doubt receive attention.

THE IMPERIAL BACTERIOLOGICAL LABORATORY OF INDIA.

MANY of our readers are probably acquainted with the important work carried on by the Pasteur Institute at Kasauli, in the Punjab; but perhaps it is not generally known that another centre of research work in the Indian Hills is in active operation at Muktesar, near Naini Tal, in the United Provinces. This was originally started by Dr. Alfred Lingard in 1893. In 1908 Dr. Lingard retired, and was succeeded by Major J. D. E. Holmes, C.I.E., M.R.C.V.S., who has a staff of an assistant bacteriologist, a physiological chemist, three European laboratory assistants, and numerous native assistants and veterinary inspectors. Muktesar stands on top of a hill, at an elevation of about 7500 feet, the estate comprising 7000 acres, half of which is forest. Besides the main laboratory buildings there are three separate laboratories for anthrax, *charbon symptomatique*, and mallein preparation, together with a sterilising house, cold storage, power house, stables, cattle sheds, and dog kennels, &c. The duties of the Imperial bacteriologist, when first appointed in 1890, were thus defined: "To investigate diseases of domesticated animals in all provinces of India, and to ascertain as far as possible, by biological research both in the laboratory and when necessary at the place of outbreak, the means for preventing and curing such diseases." Year by year investigations have been carried out on surra as affecting horses, camels, and dogs; rinderpest, affecting cattle and buffaloes, epizoötic lymphangitis, dourine, anthrax, hæmorrhagic septicæmia, and *bursati*. The results have been published, either separately by the Indian Government, or as contributions to the *Journal of Tropical Veterinary Science*, or elsewhere. The economic importance of such a research institute is becoming increasingly recognised. The study of the diseases, until recently obscure, of horses and cattle, due to trypanosomes (surra and dourine), epizoötic lymphangitis (first diagnosed and described in India by Dr. Lingard), rinderpest, piroplasmosis, &c., has been carried out thoroughly with all the appliances of modern scientific research. No doubt a considerable sum of money has been expended on the erection and maintenance of this institute, but the value of the results is already acknowledged, and year by year will become more appreciated. In India rinderpest is the most prevalent and destructive disease of stock; in this, as in other epizoötics, the operations of the Government Veterinary Department are directed to the suppression of the outbreaks as they occur, the treatment and protection of individuals being of less consideration, and total eradication not being even attempted, as it is practically out of the question. Next to rinderpest hæmorrhagic septicæmia accounts for the largest losses among cattle. For glanders, surra, epizootic lymphangitis, and dourine there exist legislative measures of control. For rinderpest the use of serum is accepted without opposition in most parts of the country on account of the great benefits which have resulted during the last ten years, and which are freely acknowledged. A successful method of curing surra was discovered at the laboratory in 1908; atoxyl and arsenic are used, and 75 per cent. of the horses and mules treated have recovered. Dogs have been cured by salvarsan. The above is a very slight sketch of the work carried out by the Muktesar laboratory, the existence of which is a proof of the appreciation of modern scientific methods by the Government of India. The great value of its prophylactic work is probably at present understood and appreciated by comparatively few, but the time will come when it will be fully acknowledged. The practical difficulties in establishing laboratories and carrying through *delicate bacteriological work and microscopic* research in the Himalayas must have been considerable, and great credit is due to Dr. Lingard and his successors for the valuable results that have been obtained.

DISEASES OF NATIVES IN NEW GUINEA.

WHY do uncivilised nations die out? This question is being answered in the German colonies by careful statistical investigations, of which the latest to come under our notice was made by Dr. Karl Kopp in New Pomerania,[1] German New Guinea. He found the people well fed, the children in good condition, but the adults spare and the aged thin. There were plenty of children, and he gives a table showing the proportions which children under 15 bear to the general population: in New Pomerania, 614 out of 1000, but the men seem to emigrate in search of work and would not be enumerated, so the child ratio is too high; in Austria, 563; Germany, 534; England, 529; and France, 353. There are more men (who are generally idle) than women (who do nearly all the work). The most frequent causes of mortality and of disabling constitutional weakness are first and chiefly "the scourge of the South Seas"—ankylostomiasis; 62 per cent. of children in the schools were found infected. The only children who harboured no intestinal parasites all wore boots, the infected all went barefoot. He says with great truth that many a planter who groans over the weakness and idleness of his coolies would much better spend his time contriving for them a safe water-supply and decent latrines so they could do their work. Malaria and filariasis, mosquito-borne diseases, come next. They each do much harm by setting up an anæmia which depraves the man's working power and makes him an easy victim to the next infection that comes along. Tuberculosis is not endemic yet; it has been communicated by strangers, and hence it is the men, who more often meet them, who are most infected; women and children escape more lightly, and the disease has barely reached the natives who live far in the wilds. It is observed that the disease spreads more rapidly in a village well protected from the wind and with its houses therefore less well ventilated. This is interesting in connexion with what Dr. William Gordon has found in Devonshire, where villages appeared to be susceptible in proportion to their exposure to the south-west wind.[2] Cases of yaws also are frequent in New Guinea, and a gingivitis which may be scurvy. Syphilis also has been imported; as Dr. Kopp remarks, it is a Greek gift from civilised visitors; also dysentery occurs frequently. The chief of their unhealthy customs are smoking, which is continual and has been seen to be practised even by sucklings, chewing betel nut, and careless, unregulated depositing of fæces. His hope for the future is with the Government labourers and recruits, who shall find so good sanitary arrangements in barracks that they will be unable to live without them in their homes on their return.

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[1] Archiv für Schiffs und Tropen-Hygiene, November, 1913, p. 729.
[2] THE LANCET, June 14th, 1913, p 1645.

EARLY DAYS OF CHLOROFORM.

THE death, at the age of 83, of a niece of Sir James Simpson, which occurred last week at Streatham, brings to mind the early days of anæsthetics. We have grown so accustomed to their use, and alterations and advances in the practice of anæsthesia follow so rapidly one upon another, that we easily lose sight of the fact that it is really only a short time since the first anæsthetics were introduced. Mrs. Agnes Thomson was, so far as we know, the first woman to inhale chloroform, which she did experimentally at Simpson's house in Queen-street, Edinburgh, where he and his assistants were investigating the newly discovered drug. Miss Petrie, as she then was, after witnessing the effects of chloroform on Simpson and some of his assistants, volunteered to try it, and apparently she enjoyed the inhalation, for she repeated it on more than one occasion. No doubt what we now regard as surgical anæsthesia was never attained, and the pleasant sensations she experienced are often paralleled at the present time by those who are subjected only to short periods of administration and to no deep degree of narcosis. Chloroform, we may remind our readers, was no haphazard discovery, but was the direct result of Simpson's desire to find an anæsthetic less irritating than ether, which had been already introduced and was used by Simpson early in 1847. It was in November of the same year that he read his "notice of a new anæsthetic agent as a substitute for ether in surgery and midwifery," in consequence of which chloroform rapidly supplemented ether, until the greater danger of the former drug became apparent. There is an interesting picture of these early chloroform experiments of Simpson, which partook almost of a domestic nature, and of those taking part in them, in Lady Priestley's "Story of a Lifetime." Her husband, the late Sir William Priestley, was one of the many young Edinburgh medical men who were infected with the enthusiasm and joyous spirit of investigation which animated their great teacher.

FATAL HÆMATEMESIS DUE TO ANGIOMA OF THE PORTAL VEIN.

IN the *Berliner Klinische Wochenschrift* for Dec. 1st, 1913, Dr. Hart has reported a case which throws light on the origin of one form of gastric hæmorrhage. His patient was a governess, aged 20, who had previously been well. In March, 1913, an attack of violent hæmatemesis was followed by collapse. After five days, during which the hæmatemesis continued, the patient died. The necropsy showed dilatation of the veins of the œsophagus and the stomach, and a ruptured varicose vein in the latter. The spleen was much enlarged and surrounded by adhesions. There was no sign of a normal portal vein, the place of which was taken by a spongy structure consisting of innumerable minute blood-vessels. This was evidently the point at which obstruction to the circulation of the abdominal veins had induced enlargement of the spleen and dilatation of the gastric veins. As there was not even a fibrous cord in place of the portal vein, this cannot at any time have existed, and the angioma must be regarded as a congenital anomaly. It is astonishing how such a condition could have lasted for 20 years before the congested veins gave way. The liver contained gummata, and at first sight the angioma would seem to be dependent on congenital syphilitic disease of the liver; but Dr. Hart thinks, in view of the patient's history, that the syphilis was acquired, and had nothing to do with the angioma. Of late years a few cases have been recorded in which the portal vein was replaced by cavernous tissue. Sometimes this has been limited to the portal vein; and at other times it has extended to the splenic vein and to the intrahepatic branches of the portal vein. It is practically impossible during life to distinguish this condition from cirrhosis of the liver, Banti's disease, and polycythæmia. The condition may be fatal as a result of late thrombosis of the branches of the portal vein with infarct of the corresponding portions of the intestine, or as a result of hæmorrhage from an œsophageal or gastric vein. The condition does not necessarily affect the liver, and its origin is still in dispute. Some authorities regard the angioma as a sequel to thrombosis of the portal vein, followed by recanalisation and the formation of capillary, collateral blood-vessels. Others consider that an angiomatous tumour has grown from the wall of the portal vein, which has ultimately become obstructed. Others, again, regard the condition as a congenital malformation. It has probably been overlooked more than once at necropsies, and thus the cause of a fatal gastro-intestinal hæmorrhage has not been discovered.

THE POLICE PATIENTS IN METROPOLITAN HOSPITALS.

THE metropolitan police force now numbers 22,000 men, and they form a picked body, for only about 25 per cent. of the candidates are accepted. The last published report of the Chief Surgeon of the Metropolitan Police, that for the year 1912, shows the general health of the force to be good, but reveals also how their arduous duties entail a corresponding sickness rate, whilst the number of police injured in the course of their routine work is very large. For instance, in 1912 3075 policemen were injured in the execution of their duty, over 2500 having been assaulted when making arrests, of whom 329 were placed on the sick list for more than one week. 369 patients during the same year were admitted into general hospitals, 33 into cottage hospitals. and 172 into special hospitals, making a total of 574, 22 of whom died. The figures show that the hospitals of the metropolis minister in an important manner to the health and well-being of the police force over a huge area. We have just received with particular pleasure a communication from the Office of the Commissioner of Police stating that it is proposed to alter the basis on which subscriptions are paid to the metropolitan hospitals from the Police Funds in return for the ministrations rendered to police in-patients. Hitherto certain subscriptions have been paid by Scotland Yard to different hospitals in a completely arbitrary way, so that it might easily happen that one charity, receiving a small subscription, would be affording treatment to 40 or 50 police in-patients during the year, while another receiving a larger subscription, might during the same year shelter only one or two policemen in the wards. Under the new arrangement, which has been made at the instance of Sir Edward Henry, the Commissioner of Police, and with the approval of Mr. McKenna, the Home Secretary, the subscriptions from the Police Funds, while remaining as at present on a voluntary basis, will be approximately equal to a sum of 1 guinea per week on account of every police in-patient admitted to the hospital during the year. Further, from any officer above the rank of inspector who may be received in one of the hospitals an additional contribution will be expected, and the Commissioner of Police invites the management of the various hospitals to communicate with him when such a case arises, so that the suitable provision may be made. We know that this valuable change in the method of dealing with police in-patients in the metropolitan hospitals has long been desired by Sir Edward Henry, as an obvious way of making a more equitable recognition of the services rendered by the hospitals to the police, and we are certain that the new arrangement will be acceptable to the governing boards of the respective institutions concerned. A far larger sum of money will now be paid to the hospitals in recognition of the medical and surgical treatment received by police in-patients, and that sum will go in the different directions where it has been earned. We heartily congratulate Sir Edward Henry on carrying through a valuable piece of administrative reform.

AT the next meeting of the Royal Microscopical Society at 20, Hanover-square, London, W., on Wednesday, Jan. 21st, at 8 o'clock, Professor G. Sims Woodhead will deliver his Presidential address on "The Microscope and Medicine."

SIR JAMES PAGET'S CENTENARY.—In our last issue the vicar of Great Yarmouth announced that the centenary of the birth of Sir James Paget would be commemorated at Yarmouth parish church on Sunday, Jan. 11th. Sir James Paget was born at Yarmouth on Jan. 11th, 1814, and his family was closely connected with the district and its parish church. An impressive service was accordingly held, at which the sermon was preached by the Bishop of Stepney, third son of Sir James Paget. The mayor and corporation of the borough attended, and representatives were present from St. Bartholomew's Hospital, from the University of Cambridge (in which Sir James Paget's brother, Sir George Paget, was professor of medicine), and from various medical societies. After the service the mayor received on behalf of the corporation from the Bishop of Stepney and Mr. Stephen Paget certain pieces of plate and other souvenirs which had been presented to their father by the citizens of his native town.

A JOURNAL OF PHONETICS.—The birth of a new journal devoted to any department of medicine is necessarily one of interest. The journal which is now attracting our attention is termed the *Archiv für Experimentelle und Klinische Phonetik*, and is edited by Professor J. Katzenstein. In this first number Dr. Otto Weis deals with the formation of the vocal—this word should be used in the same way as it would be employed by the singers—and there are several photographs of curves of sounds produced in various ways and in various parts of the vocal apparatus. There is a contribution to the Physiological Study of Phonetics, by [illegible] long, fully illustrated article on [illegible] me of Air in Speaking and Singing, [illegible] and R. du Bois Reymond. The articles of this first number mentioned will give some idea of the scope of the journal, and one feels sorry that there is not a journal devoted to this subject in the English language, though we expect it would be extremely difficult to produce one of equal merit.

THE RATIONAL TREATMENT OF INCIPIENT INSANITY AND THE URGENT NEED FOR LEGISLATION.[1]

BY ROBERT ARMSTRONG-JONES, M.D. LOND., F.R.C.P. LOND.,
RESIDENT PHYSICIAN, LONDON COUNTY COUNCIL ASYLUM, CLAYBURY AND LECTURER ON MENTAL DISEASES TO ST. BARTHOLOMEW'S HOSPITAL; FORMERLY EXAMINER IN MENTAL DISEASES, UNIVERSITY OF LONDON.

THE victims of insanity in its many forms claim the protection and the care of the two sections of which the Medico-Legal Society is constituted. They come under the care of the medical man for their mental and physical condition, and they need the supervision and help of the lawyer for the custody of their property and for the safeguarding of their liberty. In consequence of this dual control the term insanity probably has for members of the society two different meanings. To the medical section insanity is a disease which brings about (sometimes suddenly, but more often gradually) a change in conduct of such a kind that actions or speech indicate a loss of self-control and self-direction. As a result of this change in conduct the community in which the sufferer lives demands for his own safety and that of others that he should be placed under circumstances in which he may best regain his lost balance. To the legal section an insane person is one who has become recognised as such through the filling up and signing of certain forms and schedules in accordance with the provisions of an Act of Parliament, so that insanity in this sense is a transition from one territory or province into another, the line of demarcation being a legal one. The transition takes no notice of the condition necessitating the change, only of the delimiting frontier, which is certification. On one side of this frontier there is one law for him, on the other there is another; and it is the disqualifying condition which accompanies this certification that constitutes the basis of this paper.

The Stigma attaching to Insanity.

One of the chief functions of the Medico-Legal Society is to formulate and discuss schemes of legislation relating to important medical matters, and the insane subject needs legal support because an obloquy, a shame, and a disgrace attach in the public mind, and most unjustifiably, to insanity, to insane persons, and even to the places wherein these are now treated and cared for. Whilst recovering from this terrible disability no convalescent home will receive them, no family welcomes them, and even relatives and friends are suspicious and timid in regard to them. Their own children often shun them, and even when restored to their former health, as I am happy to say is very frequently the case when they come under treatment early, there is a difficulty in reinstating them in their former places owing to the prejudice which exists so widely. It is the duty of those who are acquainted with this sad affliction and who know the sufferers best to help them against the antipathy and to try to alter the public feeling which now prevails against them.

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[1] Paper read to open a discussion at the Medico-Legal Society, under the chairmanship of Earl Russell, on Nov. 25th, 1913, at which Dr. [illegible] Sidney [illegible] and [illegible] Sir G. [illegible] and to [illegible] tions. [illegible] Dr. Henry Maudsley was present.

Of all disabling illnesses insanity is the most formidable, as it is also the most expensive, and the most difficult to deal with, yet if treated in its early stage it is most successful in results, which fact is of immense importance to the community, both from the point of view of prevention as well as of finance, for which reasons cases of insanity should receive prompt attention at the very outset.

Incipient Cases.

There are in round numbers 140,000 insane persons in England and Wales, and the cry is that these numbers are increasing. In addition to those who are insane there is possibly an equal number on the borderland. Many parents sacrifice themselves in order to give good schooling to their children and to equip their boys and girls for the battle of life, the gates of progress to-day being forced only by those especially prepared for the fray. Yet education has its victims, the physical side of children being often sacrificed to the mental, both parents and teachers forgetting that the secret of successful competition is first of all to have a healthy muscular and nervous system. The "speeding up" which is now universal has to start from below, time is precious and work has to be done at a white heat, and there is urgent need for a reliable physical health, for the neurasthenic class has never been more numerous than it is to-day, and it has become the fashion to run "homes" for all sorts of nervous breakdowns, as the friends of the early insane know already to their cost. If it were only more widely known how incipient insanity may be controlled and quickly relieved there would be a national effort to provide means for treatment and early advice. Yet what is being done to-day to prevent these cases becoming incurable and to keep down the numbers of the certifiable insane? It is but little known how many there are, especially among the poorer classes, who are struggling hard against tremendous odds to keep their ill ones out of the lunatic asylum and out of the workhouse infirmary as well. Few know the efforts made by the deserving poor to fight against a "damnable heredity," and it has been well said that the value of a life should be measured not by success but by effort.

The Legal Position.

The munificent gift of Dr. Henry Maudsley to the London County Council—viz., the Mental Hospital, which is to be called after his name in South London, is destined to be the finest clinic in the world, but before it can be of full use there must be a change in the law of lunacy. So far as England and Wales are concerned there is to-day in lunacy one law for the rich and another for the poor. But even a rich person who is suffering from insanity cannot be looked after upon payment even by his own father, mother, brother, sister, or any relative or friend except at the penalty of a fine, or being summoned in an action for misdemeanour. Further, no person suffering from insanity can be kept or maintained for payment unless that person is certified and registered as a certified lunatic. A person who is restless from loss of sleep and delirious with excitement cannot be looked after in any home or hospital except at the risk of an action being brought against his custodian for maintaining a person who should have been certified. But what does the certificate imply? It carries with it the stigma and the reproach—unjust as they are—of insanity, and once certified the reproach remains, not only in regard to himself, but also to his family and his relations. To my knowledge many men have lost their situations in the service of the Crown, in the employ of public companies, and frequently in private service, owing to the stigma of insanity which certification implies. Many humble persons have been deprived of their livelihoods and have been actually prevented from recovering because they realised the portent of the certificate of insanity.

Causal Factors in Insanity.

Whilst it is customary to blame alcoholic excess for most of occurring insanity, nevertheless insanity is a condition with many antecedents and innumerable causal factors; unhealthy surroundings, the want of fresh air and sunshine, long years of strain and worry, noise, sleeplessness, and bad food are frequent etiological factors, which show that the person afflicted is not to be blamed for his own illness. Insanity is a gradual rather than a rapid change. A case illustrating physical causation is given, if I remember rightly, by Dr. Lewis C. Bruce; another on the mental side by Dr. Helen Boyle. The physical factor is illustrated by a mother who gives birth to a child; her confinement is associated with a slight fissure of the cervix uteri; over this fissure runs a discharge from the uterus which inoculates the wound with streptococcic or staphylococcic infection. After months, possibly years, of continuous infection her health at last gives way and she becomes a complete mental wreck, which proper treatment of the fissure at the start would have prevented.

On the mental side the example is that of a needy home and a poor mother with a large and young family. She stays up at night nursing her sick child in an overcrowded room—often with bad air and worse food, with noise and worry. Later she becomes sleepless, loses her appetite, her general health fails, and she is threatened with a mental breakdown, possibly complicated also with tuberculous infection. She knows she is going down hill, she becomes melancholy, and develops delusions. She feels unable to cope with the calls of home or with the needs of her husband and children; she is no longer able to do the mending, darning, washing, cleaning, and cooking expected of her, and she seeks medical help and advice. She waits for hours at the out-patient department of a general hospital and gets a bottle of medicine, with the advice not to worry, but to go home and rest. She is told she cannot be taken into the hospital because she has no definite organic disease, and she is not eligible for the asylum because she has not been certified. Even if she were, she would have to go into the workhouse first, which she dreads. She fears still more the stigma of the lunatic asylum, which will not only stamp her as an outcast among her family, but will also cast a permanent blemish upon her children.

Cases Needing Special Treatment.

These are the kinds of cases that need special treatment to save them from the stigma of insanity, and there are many more besides. There are those who suffer from the delirium of bodily illness such as may accompany an attack of pneumonia or pleurisy, or some of the acute fevers—more commonly perhaps typhoid and scarlet fever, many who suffer from the temporary delirium of puerperal toxæmia, some who suffer from renal uræmia, and scores of people who have "drunk not wisely but too well."

I have seen many instances of teachers,

governesses, maids, of poor clerks and working men among these cases, who, if they had been able to receive treatment in a general hospital, or some special place intermediate between the hospital and the lunatic asylum, would never have been certified as insane, and would not in consequence be deprived of their livelihood; nor would their relatives and dependents have been further debased by the additional stigma of pauperism. Picture, for instance, a young mother, after her first confinement, finding she has been from three to six weeks in the county asylum as a pauper lunatic—and there are scores of such cases. In her case each successive pregnancy is a nightmare to her, and, in the opinion of some, her own distress will have brought its bad effects upon the children born later. Other cases occur in which persons of a highly strung or nervous temperament have suffered from accident or shock, and as a result have become deliriously restless and excited. Without their knowledge or the consent of their friends they have been certified as insane and removed to the nearest lunatic asylum, and their future careers thereby absolutely destroyed. Many cases suffering from the effects of alcohol have, in consequence of mental symptoms lasting some days, been removed to the Poor-law infirmary; and here, it is satisfactory to know, efforts have been made to save many of them from the reproach of lunacy by detaining them until the mental symptom had passed away, and in some of the larger towns a successful effort has been made to treat these cases in the Poor-law infirmary wards, where nearly 50 per cent. of them have recovered completely within the statutory period of 31 days' detention. By this treatment their future position at least has been protected, and there has also been a saving to the public purse by delayed certification. It is cruel that these rescuable cases and their families and relatives should not get a chance of being saved the reproach of a painful as well as of a permanent stigma. For humanitarian reasons, apart from financial considerations, and for reasons which tend to affect the self-respect and the position of the family, it is right that these persons should have a chance to escape from the censure of being branded with lunacy, if this be possible, and we know that it is. It is hard enough for healthy men to compete with the world, how much more so those who are sensitive and refined, and who through no fault of their own have been compelled to yield in the unequal strife and struggle.

Institutions for Incipient Cases.

As the law now stands the rich man can be placed as a voluntary boarder in a licensed house or a mental hospital if he should feel a mental breakdown impending, and why, if this is satisfactory and possible for the well-to-do, should it be withheld from the poor? The rich patient may also enter a private house to be treated singly, but the poor have to be herded together, and in addition have to pass through the workhouse or Poor-law infirmary and be further censured for their illness as paupers. I do not wish to say anything against the treatment in Poor-law infirmaries. It is as devoted and as able in many of these infirmaries as it is in most of our general voluntary hospitals. But association with Poor-law relief is a stigma.

Although I have stated that the insane rich may enter private houses or homes, these homes are not by any means what they might be. We know there are scores of so-called "retreats" or nursing homes ostensibly for cases of this kind described euphemistically as "nervous" cases, but the cases are looked after often by persons who know little or nothing of the conditions of incipient insanity. I have recently seen a man who spent practically the whole of his savings in residence at a nursing home, in which his mental disorder continued to develop and where much valuable time was lost in "curing his nerves" with galvanism and what was described as the "rest cure."

All who practise in my department of medicine know of these nursing homes, and there is, through the fear of the stigma of insanity, a tendency on the part of the relatives and friends to avoid asylums and to make use of them. A great deal of trouble is also often experienced in dissuading the friends from placing mental cases in them. There are many doctors in practice who, although themselves acquainted with the different types of insanity in their fully developed forms, yet do not recognise the early symptoms, and they often suggest, under a misapprehension, that patients in the early stages of insanity should enter these so-called "homes," where they receive no benefit. I believe there are some consulting physicians who also recommend these homes for the early stages of insanity, which shows the urgent necessity there is for some intermediate place and for an immediate change in the law. The Lunacy Commissioners are compelled to see that the law is carried out in regard to the treatment of the insane, yet they are loth to take steps to prosecute those who may be acting in the supposed interests of their patients. The line between sanity and insanity is so fine and the neutral territory between the two is so indistinct and ill defined that cases of confirmed insanity remaining uncertified certainly do exist, and in greater numbers than is generally believed. We know that cases of scandal, of suicide, and of coroners' inquests do occur, and the wonder is they are not more numerous. If I may be permitted to say so, this is a compliment to the manner in which the high lunacy officials perform their difficult and delicate duty—viz., the safeguarding of the interests of the insane. Some of these cases are undoubtedly difficult to treat, and those presenting dangerous delusions, those with homicidal or suicidal tendencies, should receive asylum care from the start, but there should be a possibility of keeping others of them under care for a time, at any rate, until a correct diagnosis of the case has been made, and to avoid abuse the patients kept during this probationary period should be carefully inspected, and the "house" or "home" recognised or registered for official supervision either by the Lunacy Commissioners or by such an authority as the London County Council in London, who now propose to register places for massage, rest cures, and "lying in."

It is firmly believed that the feeling of not having to go into an asylum would diminish the unwillingness there is now on the part of mental cases to seek early relief. It is known that when early relief is sought the duration of the illness is also shortened.

Results of Early Treatment in England and Scotland.

Let us consider what has already been attempted in this direction. In 1908 an effort was made to establish mental wards in the Edinburgh Royal Infirmary for the reception and treatment of early mental cases, but financial difficulties compelled its set in authority over him. We hope that the Ilford district council will now realise that persistent efforts to dislodge a responsible official because his views of public duty conflict with theirs are not for the good of the community. We have dwelt upon the Ilford dispute at such length because it shows the need for taking out of the hands of local authorities the appointment and dismissal of medical officers of health.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on Jan. 8th, Sir RICKMAN J. GODLEE, the President, being in the chair.

Mr. Walter G. Spencer was introduced, made a declaration in the terms of the oath prescribed by the Charter of 1800, and was readmitted a member of the Court of Examiners.

The PRESIDENT stated that Sir Watson Cheyne, Bart., had consented to deliver the next Hunterian Oration, and accordingly he declared Sir Watson Cheyne Hunterian orator for 1915.

A letter was read from Mrs. Sydney Jones thanking the Council for their expression of sympathy on the occasion of the death of her husband.

A vote of thanks was given to Mrs. King, of Milton, Mass., U.S.A., for presenting a clock to the College in memory of her father, the late Dr. W. F. C. B. Fifield, M.R.C.S., of Boston.

Mr. Charters J. Symonds was appointed a representative of the College on the Council of Queen Victoria's Jubilee Institute for Nurses for three years.

A report from the Committee of Management was received and adopted. It was as follows:—

1. The Committee of Management have considered a recommendation of the examiners for the Diploma in the Diseases and Hygiene of the Tropics, that [illegible] two parts, and as the committee are of [illegible] adopt this proposal, they recommend [illegible] be substituted for Clauses I. to III. of the existing regulations, viz.:—

I. The examination will be held in the months of April and July.

II. The examination will consist of two parts.

Part I. will comprise—(*a*) written questions; (*b*) oral questions; and (*c*) practical laboratory work in the following subjects: [illegible] ogy, bacteriology, general parasitology, [illegible]

P[illegible] written questions; (*b*) oral questions; and (*c*) clinical and laboratory work in tropical diseases and hygiene. This will include helminthology, protozoology, zoology, and entomology in their relations to clinical medicine.

III. The fee for admission to Part I. is £5 5*s*., and the fee for admission to Part II. is £4 4*s*.

IV. Candidates may enter for Parts I. and II. separately, or together, but they will not be allowed to proceed to Part II. until they have passed Part I.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

BEGINNING with the current week the recently extended city of Exeter will be added to the list of towns for which statistics are published in the weekly return of the Registrar-General. In these 97 towns, each of which had a population exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 9199 births and 6703 deaths were registered during the week ended Saturday, Jan. 10th. The annual rate of mortality in these towns was equal to 19·3 per 1000, against rates steadily rising from 13·2 to 18·6 per 1000 in the five preceding weeks in the former 96 towns. This is the highest death-rate recorded for the aggregate of these towns since the sixth week of the year 1912. Among the several towns the annual death-rate last week ranged from 8·7 in Barrow-in-Furness, 8·8 in Hornsey, 10·3 in Ilford, 10·4 in Walthamstow, and 10·6 in Southend-on-Sea, to 28·1 in Great Yarmouth and in Norwich, 28·7 in Swansea, 30·8 in Stockton-on-Tees, 31·2 in Bath, and 32·1 in Wolverhampton.

The 6703 deaths from all causes were 328 in excess of the number in the previous week, and included 355 which were referred to the principal epidemic diseases, against 348 and 346 in the two preceding weeks. Of these 355 deaths, 89 resulted from infantile diarrhœal diseases, 66 from measles, 65 from diphtheria, 64 from whooping-cough, 43 from scarlet fever, and 28 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·0 per 1000, and coincided with that recorded in each of the three preceding weeks. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 96, 89, and 80 in the three preceding weeks, rose to 89 last week; of this number 23 were recorded in London, 6 in Birmingham, 6 in Manchester, 5 in Stoke-on-Trent, 5 in Liverpool, and 4 in Middlesbrough. The deaths referred to measles, which had been 62, 80, and 76 in the three preceding weeks, further declined to 66 last week, and included 8 in Burnley, 7 in London, 5 in Sheffield, 5 in Middlesbrough, and 4 each in Bradford, Barnsley, and South Shields. The fatal cases of diphtheria, which had been 69, 60, and 64 in the three preceding weeks, were 65 last week, of which 11 occurred in London, 8 in Birmingham, 5 in Sheffield, and 3 each in Portsmouth, Northampton, Liverpool, and Manchester. The deaths attributed to whooping-cough, which had been 56, 61, and 76 in the three preceding weeks, declined to 64 last week, and included 12 in London, 10 in Birmingham, 6 in West Ham, 4 in Liverpool, and 4 in Leeds. The deaths referred to scarlet fever, which had been 38, 38, and 34 in the three preceding weeks, rose to 43 last week; of this number 8 were registered in Salford, 6 in Sheffield, 4 in London, and 2 each in Ipswich, Birmingham, Manchester, Preston, and West Hartlepool. The fatal cases of enteric fever, which had declined from 26 to 16 in the four preceding weeks, rose to 28 last week, of which 5 occurred in London, 4 in Liverpool, 2 in Stockport, 2 in Sheffield, and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had fallen from 4143 to 3874 in the five preceding weeks, had further declined to 3757 on Saturday last; 416 new cases were admitted during the week, against 458, 326, and 425 in the three preceding weeks. These hospitals also contained on Saturday last 1081 cases of diphtheria, 219 of whooping-cough, 55 of measles, and 54 of enteric fever, but not one of small-pox. The 1779 deaths from all causes in London were 164 in excess of the number in the previous week, and were equal to an annual death-rate of 20·5 per 1000. The deaths referred to diseases of the respiratory system, which had been 307, 280, and 423 in the three preceding weeks, further rose to 511 last week, and were 211 in excess of the number recorded in the corresponding week of last year.

Of the 6703 deaths from all causes in the 97 towns, 223 were attributed to various forms of violence, and 560 were the subject of coroners' inquests. The causes of 52, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Newcastle-on-Tyne, and in 65 other smaller towns. Of the 52 uncertified causes of death, 12 were registered in Birmingham, 8 in Liverpool, 3 in Burnley, and 3 in South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,295,800 persons at the middle of this year, 1398 births and 889 deaths were registered during the week ended Saturday, Jan. 10th. The annual rate of mortality in these towns, which had increased from 15·6 to 20·3 per 1000 in the five preceding weeks, slightly declined to 20·2 per 1000 in the week under notice. During the 14 weeks included in the December quarter of last year the mean annual death-rate in these Scotch towns averaged 15·9, or 1·7 per 1000 above the corresponding rate recorded in the 96 large English towns. Among the several towns the death-rate last week ranged from 11·0 in Ayr, 13·8 in Perth and in Motherwell, and 14·4 in Leith, to 28·1 in Clydebank, 31·5 in Coatbridge, and 32·8 in Paisley.

The 889 deaths from all causes were 8 in excess of the number in the previous week, and included 79 which were referred to the principal epidemic di[illegible] 78 and 85 in the two preceding weeks. Of the[illegible] from measles, 14 from diphtheria, 12 [illegible] diseases, 9 from scarlet fever, 5 from whooping-cough, and [illegible] from enteric fever, but not one from small-pox. These 79 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8, against 1·0 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 39, 37, and 50 in the three preceding weeks, declined to 36 last week, and included 15 in Glasgow, 6 in Paisley, 5 in Edinburgh, 3 in Greenock, 2 in Leith, and 2 in Kirkcaldy. The deaths referred to diphtheria, which had been 12, 10, and 12 in the three preceding weeks, rose to 14 last week, of which 6 occurred in Glasgow, 3 in Edinburgh, and 2 in Aberdeen. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 14, 9, and 11 in the three preceding weeks, were 12 last week, and included 3 in Aberdeen, 3 in Coatbridge, 2 in Glasgow, and 2 in Edinburgh. The deaths attributed to scarlet fever, which had declined from 12 to 7 in the four preceding weeks, rose to 9 last week, and comprised 4 in Edinburgh, 2 in Glasgow, 2 in Aberdeen, and 1 in Clydebank. The deaths referred to whooping-cough, which had been 3, 11, and 5 in the three preceding weeks, were again 5 last week; 2 deaths were registered in Edinburgh, 2 in Coatbridge, and 1 in Paisley. The 3 fatal cases of enteric, [illegible] erwell [illegible] n the [illegible] stem, [illegible] veeks, [illegible] were attributed to various forms of violence, against 31 and 30 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 640 births and 588 deaths were registered during the week ended Saturday, Jan. 10th. The annual rate of mortality in these towns, which had been 18 9, 15 9, and 25 7 per 1000 in the three preceding weeks, declined to 25·4 per 1000 in the week under notice. During the 14 weeks included in the December quarter of last year the mean annual death-rate in these Irish towns averaged 17·8 per 1000; in the 96 large English towns the corresponding rate did not exceed 14 2, while in the 16 Scotch towns it was equal to 15 9 per 1000. The annual death-rate last week was equal to 26 3 in Dublin (against 20 5 in London and 18 4 in Glasgow), 26 5 in Belfast, 29 2 in Cork, 14 0 in Londonderry, 16 2 in Limerick, and 30 4 in Waterford, while in the 21 smaller towns the mean death-rate was 23 6 per 1000.

The 588 deaths from all causes were 5 fewer than the number in the previous week, and included 44 which were referred to the principal epidemic diseases, against 31 and 32 in the two preceding weeks. Of these 44 deaths, 13 resulted from scarlet fever, 8 from measles, 7 from infantile diarrhœal diseases, 6 from diphtheria, 5 from whooping cough, and 5 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1 9 per 1000; in the 97 large English towns the [illegible] weeks, rose to 13 last week, and comprised 12 in Belfast and 1 in Clonmel. The deaths referred to measles, which had steadily risen from 1 to 7 in the five preceding weeks, were 8 last week, of [illegible] ıtal cases of diarrhœa a [illegible] 2 years), which had bee [illegible] ıg weeks, were 7 last we [illegible] lin, 2 in Belfast, and 2 ı [illegible] to diphtheria, which [illegible] preceding weeks, were 6 last week, and comprised 4 in Belfast and 2 in Dublin. The 5 deaths referred to enteric fever, of which 3 [illegible] e weekly [illegible] the fatal [illegible] 7 in the three preceding weeks, further declined to 5 last week, 3 of which occurred in Belfast. In addition to the above, 2 deaths from typhus were registered in Belfast.

The deaths referred to diseases of the respiratory system, which had been 80, 89, and 162 in the three preceding weeks, declined to 154 in the week under notice Of the 588 deaths from all causes, 169, or 29 per cent, occurred in public institutions, and 15 resulted from various forms of violence. The causes of 26, or 4 4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0 8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

[illegible] otified:—Fleet- [illegible] rgeons: H. A. [illegible] disposal, and [illegible] Surgeons: D. [illegible] for the *Spanker;* D C [illegible] Richardson to [illegible] Royal Marine [illegible] to the *Vivid,* [illegible] *Wales;* G. W [illegible] disposal, and [illegible] temporary; C [illegible] disposal, and [illegible] Hospital; F. H. [illegible] posal, and to Royal Marine Division, Plymouth, temporary; G. M. Levick, A. T. Rivers, T. R. L. Jones, K. H. Hole, G. T. Syms, H. F. Briggs, M. P. Fitzgerald, J. Barratt, G. A. Jackson, A. G. Malcolm, H. C. [illegible] and H. W. Nicholls, [illegible] months' course of [illegible], Greenwich.

ROYAL NAVAL VOLUNTEER RESERVE.

[illegible] tlemen have been appointed [illegible] stin Sinclair-Loutit and James [illegible]

ARMY MEDICAL SERVICE.

Colonel Robert Porter, on completion of four years' service in his rank, is placed on the half pay list (dated Jan. 14th, 1914).

Lieutenant Colonel Michael W. Russell, from the Royal Army Medical Corps, to be Colonel, vice R Porter, to half-pay (dated Jan. 14th, 1914).

ROYAL ARMY MEDICAL CORPS.

[illegible] shall is restored [illegible] of Medical Ser- [illegible] Northern Army in India, has taken up duty at headquarters, Cherat Cantonment [illegible] selected for appointment [illegible] Hospital at the Curragh. [illegible] has been selected for the increased rate of pay under Article 317 of the Royal W [illegible] n has been [illegible] ıl at Sheffield. [illegible] ıshed charge [illegible] ıbarked for a [illegible] W. R Healey has arrived home from Nasirabad Cantonment, for duty, tour expired Lieutenant Colonel D. Shanahan, Deputy Assistant Director of Medical Services (Mobilisation) to the Ninth (Secunderabad) Division, on arrival home for duty from Ootacamund Cantonment, has been appointed to headquarters of the Eastern Command. Lieutenant-Colonel L Way has been selected for appointment to hold charge of the Military Hospital at Ferozepore Cantonment. Lieute [illegible] na D [illegible] sh Command for duty on arrival home from Mount Abu [illegible] C. O Grady has been transferred [illegible] of London to the Aldershot [illegible] ıom has been selected for [illegible] tant Director of Medical [illegible] n. Major S J. C. P. Perry has been appointed to the Military Hospital at Lebong. Major J. S. Bostock has arrived home for duty from India, by exchange with Major J. W. H. Houghton. Major B. Watts has been [illegible] of duty. Major [illegible] from the Londo [illegible] duties at headq [illegible] selected for appointment as Specialist Sanitary Officer to the Northern Command. Major D. [illegible] a tour of service at the Military H [illegible] J. Powell has been permitted by [illegible] accept and wear the Imperial [illegible] Osmanieh (Fourth Class) conferred on him by H.H. the Khedive of Egypt. Major C. H. Hopkins has been selected for appointment to hold medical charge at Devizes. Major H. W. H. O'Reilly has relinquished medical charge of troops at Colchester and embark [illegible] (Secunderabad) Division [illegible] Major L. F. Smith has be [illegible]

Captain C. Ryles has a [illegible] tour expired. Captain J. J. O'Keefe has been appointed for duty in the Eastern Command. Captain G. B. Edwards has [illegible] the Eastern Command [illegible] under orders for transfer [illegible] of the Southern Army in [illegible] Aden, vice Captain E. D. Caddell, tour expired. Captain H. B. Connell has taken up duty at Liverpool, on transfer from Shrewsbury. Captain A. S. Arthur has been transferred from Wrexham to the

Military Hospital at Newport. The following Captains have joined the Royal Army Medical College at Grosvenor-road, S.W., for the courses of instruction for promotion to the rank of Major: J. W. L. Scott (from Netley), W. C. Smales (Portsmouth), A. H. Bond (Limerick), and A. C. Vidal (Aldershot). Captain M. B. H. Ritchie has arrived home, tour expired, for duty from India. Captain C. P. O'Brien-Butler has been appointed to the Irish Command for duty. Captain L. V. Thurston has been transferred from the Cambridge Hospital at Aldershot to the Military Hospital at Bordon. Captain M. J. Cromie has taken up duty at the Military Hospital, Maidstone, on transfer from Chatham. Captain G. P. A. Bracken has arrived home for duty from Malapurram Cantonment. Captain W. H. O'Riordan has been appointed to Dehra Dun for a course of Instruction in Radiography, on transfer from the Military Hospital at Murree Cantonment. Captain H. Gall has joined at Sialkot. Captain C. R. Millar, on arrival in the Irish Command on Jan. 23rd, will be appointed to the Cork District for duty. Captain J. W. Houston has been transferred from the Military Hospital at Cherat Cantonment to Peshawar. Captain A. M. Bennett has arrived home, tour expired, for duty from India. Captain C. Ryles has been appointed to the Alderney District for duty. Captain A. L. Foster has been placed under orders for transfer from the Second (Rawal Pindi) Division of the Northern Army in India to the Military Hospital at Aden, vice Captain W. F. Loughnan, tour expired. Captain G. B. Edwards has been transferred from Leicester to the Military Hospital at Shorncliffe. Captain E. C. Phelan has taken up duty at the Military Hospital, Barrackpore, on transfer from Dinapore Cantonment. Captain J. E. H. Gatt, attached to the Station Hospital at Allhabad Cantonment, has been directed to proceed to Benares Cantonment to take charge of the Military Hospital, vice Captain A. Irvine-Fortescue, proceeding to Japan to study the Japanese language. Captain F. W. M. Cunningham has been transferred from the Military Hospital at Kalabagh to Sialkot. Captain M. Keane has taken up duty at Reading. Captain T. W. Browne has arrived home for duty, tour expired, from India. Captain L. Murphy has been transferred from the Military Hospital at Bangalore Cantonment to Malapurram, Madras Presidency. Captain G. G. Collett has taken up duty at Karachi Cantonment on transfer from the Military Hospital at Quetta.

INDIAN MEDICAL SERVICE.

The King has approved of the following promotion by brevet: Major Thomas Arthur Granger to be Brevet Lieutenant-Colonel (dated Jan. 1st, 1914).

Colonel J. Crimmin, V.C., C.B., C.I.E., has been transferred from duty under the Home Department of the Government of India, and appointed Assistant Director of Medical Services to the Derajat and Bannu Brigades, vice Colonel J. Grayfoot, transferred.

Lieutenant-Colonel H. W. Pilgrim has been granted general leave of absence home from India to May 10th next. Lieutenant-Colonel R. C. MacWatt has been appointed Agency Surgeon to the Eastern Rajputana States. Lieutenant-Colonel F. O'Kinealy has been appointed Surgeon Superintendent of the Presidency General Hospital at Calcutta.

Major P. F. Chapman, civil surgeon at Nagpur, has been appointed Superintendent of the Lunatic Asylum at Nagpur. Major J. H. Hugo, D.S.O., has been appointed Agency Surgeon at Baghelkhund by the Foreign Department of the Government of India. Major H. de V. Condon, on return from leave of absence, has been appointed Civil Surgeon at Hazara. Major H. Kirkpatrick has taken up duty in Madras. The services of Major R. B. B. Foster have been placed permanently at the disposal of the Government of Madras. Major J. Husband has been appointed to hold civil medical charge of the Wano Agency. Major R. P. Wilson has been appointed to officiate as Superintendent of the Campbell Medical School and Hospital at Sealdah during the absence on leave of Major J. W. F. Rait. Major F. D. S. Fayrer has been granted combined leave of absence home from India for 15 months.

Captain F. H. Salisbury, officiating superintendent of the Central Prison at Dacca, has been granted combined leave of absence home from India for six months. Captain F. P. Connor, on return from leave of absence, has been appointed to officiate as Civil Surgeon and Sanitary Officer at Saran. Captain A. N. Thomas has been granted leave of absence home from India for eight months on medical certificate. Captain M. S. Irani has been appointed to officiate as Civil Surgeon at Sukkur. The services of Captain O. A. R. Berkeley-Hill have been placed temporarily at the disposal of the Government of Madras. Captain H. W. Pierpoint has been appointed medical officer to the Turco-Persian Frontier Commission. Captain J. Anderson has been appointed to hold civil medical charge at Meranshah. Captain R. E. Wright has joined the Bacteriological Department. Captain A. S. Leslie has been appointed to officiate as Assistant Superintendent at the Government Maternity Hospital, Madras. Captain H. Crossle has been granted combined leave of absence home from India for five months. The services of Captain E. C. Hodson have been placed temporarily at the disposal of H.E. the Governor of Madras Presidency. Captain F. R. Coppinger has taken over medical charge of the Civil Prison at Aden. Captain F. C. Fraser has been appointed to officiate as Superintendent of the Central Prison at Vellore. Captain H. S. Hutchinson has been appointed to officiate as Professor of Physiology, Histology, and Hygiene at the Grant Medical College, Bombay, during the absence on leave of Major L. T. R. Hutchinson.

TERRITORIAL FORCE.

Royal Army Medical Corps.

For Attachment to Units other than Medical Units.—John Saffley to be Lieutenant (dated Jan. 7th, 1914).

THE TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force:—

Royal Army Medical Corps.

Lieutenant-Colonel Sydney Arthur Monckton Copeman, F.R.S., Sanitary Officer of the 1st London Territorial Division.

2nd East Anglian Field Ambulance, Royal Army Medical Corps: Lieutenant-Colonel John Herbert Stacy.

1st South Midland Field Ambulance, Royal Army Medical Corps: Transport Officer and Honorary Major George H. Dawes. Major John Henry Harris attached to the 4th Wessex Brigade, Royal Field Artillery. Major Francis James Warwick, attached to the 8th (Cyclist) Battalion, the Essex Regiment. Major Henry Dutch, attached to the 4th (City of London) Battalion, The London Regiment (Royal Fusiliers).

DEATHS IN THE SERVICES.

Major Ernest Chester Anderson, D.S.O., late R.A.M.C., at Totland Bay, in his fifty-second year. He entered the army in 1892 and served in the South African war. He was present at the relief of Kimberley [illegible] Orange Free State, includin [illegible] (mentioned in dispatches, [illegible] Queen's medal with four [illegible] two clasps). He reached the rank of major in 1904 and retired in 1912.

WEST AFRICAN MEDICAL STAFF.

The [illegible] African Medical Staff will dine togeth [illegible] n. 21st, at 7.45 P.M., in the Walnu [illegible] London, under the chairmanship of the president, Mr. J. P. Fagan.

ROYAL WATERLOO HOSPITAL ARMY COT.

Prince Alexander of Teck is making an appeal for funds for the endowment of a cot in the Royal Waterloo Hospital for the sick child of any discharged soldier living in London.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The January issue of this journal, the first number of the twenty-second volume, contains, among other articles, two communications of interest with regard to milk problems. The first, an Investigation into the Keeping Properties of Condensed Milks at the Temperature of Tropical Climates, by Lieutenant-Colonel W. W. O. Beveridge, D.S.O., concludes with the expression of opinion that the change in colour of certain kinds of condensed milks in tropical climates is presumably due to brown colour being developed by sugars which reduce in solution at a certain temperature. It is recommended that only those brands of unsweetened milks which have been proved to. be sterile should be selected for use in tropical climates. The second article is a preliminary note on the Presence of Agglutinins for the Micrococcus Melitensis in the Milk and Blood Serum of Cows in London, by Major J. C. Kennedy. The author prefixes a note of warning to his article explaining that he does not wish to appear as an alarmist, nor as being understood to say that, because in high dilutions the milk and the blood serum of certain cows in London dairies agglutinate the micrococcus melitensis, the cows are therefore capable of transmitting undulant fever. In Pulmonary Tuberculosis in the Royal Navy, with Special Reference to its Detection and Prevention, Surgeon Campbell Ross, R.N., while admitting that pulmonary tuberculosis is still a very common disease in the Royal Navy, states that all indications go to prove that it is on the decrease, and he looks forward with confidence to a time in the future when pulmonary tuberculosis will be one of the incidental diseases in the British Navy. In "Man and Nature" Colonel R. H. Firth gives us another of his delightful musings of a philosophical nature. In the present instance his reflections deal with the emotions produced by contemplating nature in "her grandest, most awe-inspiring, and even mystical aspects."

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 139.)

XXXIV.—BRISTOL: THE REFEREE AND REVISED DRUG BILLS.

BRISTOL is one of the towns where there was considerable opposition against the Act and where some advantage was secured as a result. The members of the profession began to hold meetings on the question of insurance two years before the Act was adopted. Then the Bristol delegates at the Birmingham meeting of the British Medical Association complained that the war chest was not full, but sought legal opinion to ascertain whether the Association had the legal right to organise what was practically a strike fund. Though the legal opinion obtained proclaimed that the money was safe, a medical federation was started so as to have a fund more safely secured, and this organisation obtained recognition from the Board of Trade as a limited company, with an existence quite independent from the Association. This was considered safer than registering as a trade union. The scepticism of the Bristol practitioners did not please the British Medical Association. The latter, deeming that their money scheme was good enough for everybody, decided against immediate coöperation with the Bristol Federation. The Bristol practitioners felt they had an opportunity of going forward and of obtaining considerable sums of money, yet if they collected subscriptions at the same time as the Association, and for the same strike fund purposes, they would damage both funds. The Bristol Federation, to its regret, reluctantly had to acknowledge it was bound to support the general effort. For the sake of unity and discipline its members abandoned their enterprise and their good opportunity of creating a safe and strong local fund. The Federation rules were that every member rendered himself responsible for a minimum subscription of £2 and a guarantee of £5—this, at least, was the figure mentioned to me. In any case, none of the money was called up, and those who had given promises were asked to transfer their subscription to the British Medical Association. In doing this it is claimed that the Bristol practitioners gave more in proportion than the practitioners of any other town in England.

In November, 1912, when the agitation against the Act was at its height, there were in the Bristol Division of the British Medical Association 421 practitioners, and of these 276 subscribed. Though in November of that year they only actually paid in £293 19*s.* they guaranteed £4488 5*s.* The votes given were as emphatic as the money subscribed, *both proving how strong was the feeling against* the Act. At the meeting held on Dec. 20th, 1912, only 3 out of 417 votes recorded were in favour of accepting panel service. These three voters were, however, perfectly loyal to the majority, maintaining discipline while expressing their individual opinion. Bristol claims that it brought forward a greater number of medical men against the panel and subscribed a larger sum for the strike fund than any town in England, yet when on Christmas Eve a small group of practitioners announced that they felt obliged to go on the panel, all the others, doubting the adequacy of the available "strike funds," found themselves compelled to follow suit. This was not formally decided upon, however, until certain special privileges had been obtained for the Bristol Panel Service. With all this it sufficed for one single practitioner to declare on Christmas Eve that he must go on the panel, and thereupon the entire resistance collapsed. Another practitioner announced he would in that event be obliged to follow suit, and so would all the rest.

Satisfactory Constitution of Medical Committees.

In the face of this defection, and seeing that they could not hold out, the Bristol practitioners nevertheless managed to obtain special terms. Among the various concessions made by the English Commissioners as a condition for the formation of a panel at Bristol was the appointment of a referee, or medical adviser, as he is here called. Also it was agreed that all matters concerning medical men should be submitted to a medical subcommittee, consisting of five representatives of the Local Medical Committee and five representatives of the Insurance Committee, with a town councillor as chairman. The referee has an annual income, and the great point is that his nomination does not depend on the Insurance Committee, for he is chosen by the Medical Committee. On this committee the non-panel practitioners are well represented.

At first there was a great bitterness of feeling between the practitioners on the panel and those who held aloof, but when it was found that the former made room on the Medical Committee for the latter peace was re-established. To-day, even on the special Panel Committee to be formed in accordance with the amendments to the Act, six non-panel practitioners are to be appointed. This is a clear proof of the friendly feelings that to-day prevail on both sides. Not many in Bristol among the extreme opponents of the Act would now like to see it abolished. Certainly there remains room for improvement. It is thought, for instance, that the Insurance Committee is not sufficiently influenced by the Medical Committee. As a local practitioner exclaimed in my presence: "The doctors sell their labour, but have hardly any voice in the bargain."

Bristol is divided into seven groups or districts, which originated with the British Medical Association and were adopted by the provisional Medical Committee that emanated therefrom. Ultimately the Insurance Commissioners endorsed this method of election. The rule, roughly speaking, is that there should be one elected out of every ten medical men practising in the town. There are 34 members on the Local Medical Committee. The Panel Medical Committee is to be elected by groups according to the strength of the panel men belonging to these groups, and this will be a much larger committee i[illegible]ers represented. *As* [illegible]mittee, it has had a ha[illegible] problems and a great quantity of trifling routine work.

The First Referee.

It is in the appointment of a referee, however, that Bristol stands prominent. The initiative taken here has since been followed at Oxford and Plymouth, but to Bristol belongs the credit of having set the example. Nor was it an easy matter. Thus each Friendly Society wanted to have a referee of its own, presumably to quarrel one with the other. Then a pertinent question was asked as to who should pay the referee. The admitted that the general statement of the case was correct, though the numbers were not authenticated. It appears that the education committee some time ago asked the council to authorise the expenditure of £500 to establish an open-air school and that the council did not approve the proposal. The matter will be brought up again.

Some Statistics regarding School Children.

Some interesting statistics have been published regarding the school children of Manchester. An examination of 500 boys and 500 girls of 13 years of age shows that the average height of the boys in poor-class schools was 52 inches, in medium schools 54, and in good schools nearly 57. In poor schools the average weight was 70 lb., in medium schools 73¾ lb., and in good schools nearly 82 lb. The figures for girls were: height, 54, 54, and 57 inches respectively, and their weights were 75 lb., 77 lb., and 83 lb.

Jan. 12th.

SCOTLAND.

Scottish Poor-law Medical Officers' Association.

THE report of the committee of this association for the year 1913 has just been issued from the headquarters at Glasgow. The work of the year is briefly summarised under the headings Vacant Appointments, Appeals to the Association, Pulmonary Tuberculosis Regulations, the Insurance Act, &c. The death of the treasurer, Dr. Matthew Martin, is recorded with regret. The annual meeting will be held to-day (Friday, Jan. 16th) at the St. Enoch Hotel, Glasgow, at 4.30 P.M. An effort is being made to enlarge the membership of the association, and members of the Poor-law medical service in Scotland are asked to communicate with the secretary, Mr. W. L. Muir, 1, Seton-terrace, Glasgow East.

A Scottish Hospital Exhibit.

At the International Kinematograph Exhibition and Conference to be held in Glasgow from Feb. 17th to 26th next there is to be an exhibition of models, plans, photographs, furniture, surgical equipment, and other things connected with hospital work. The main object of this exhibit is to bring together a collection of articles illustrating new features in construction, equipment, or working.

Granite Trade and Phthisis.

Attention has again been directed in Aberdeen to the prevalence of consumption among workers in the granite yards. A prominent member of the Aberdeen granite trade says difficulty is experienced in getting the men to wear respirators, even although they admit their usefulness. Even the lighter and more comfortable and modern respirators are thrown aside at the first opportunity. The real remedy lies in preventing the dust from getting into the atmosphere, and large roomy, airy sheds would do much towards fighting the prevalence of the disease. The new sheds, though more comfortable in winter, are not so free from dust as the old-fashioned variety, but the medical officer of health thinks they are really better than the old ones, because of the men's immunity from chills and draughts. There is no doubt that masters would coöperate with the men, and would welcome any scheme by which the men's health would be improved. In the opinion of one of the workers, who takes a keen interest in the matter, what the men really want is the interference of a Government Department to make regulations with regard to the dust problem. The men will not wear the big "air veil" because of its size and clumsiness. The respirators they might wear if they were not clumsy, and the piece of cotton-wool over the nostrils and mouth idea commended itself as effective and simple. The true remedy in his opinion, however, lay in prevention of dust getting into the atmosphere.

Medical Service in the Highlands.

At a meeting representative of the various public bodies in Orkney held on Jan. 9th, to consider the replies to the schedule issued by the Highlands and Islands Medical Service Board, it was unanimously agreed to ask for a grant to modernise and extend the General Hospital at Kirkwall, and it was also agreed by a majority to ask for grants for a hospital at Stromness and at North Ronaldshay. It was agreed to start a nursing service in those districts where there was no resident medical practitioner. It was also agreed by a large majority that a special board should be created to administer the medical fund locally, this board to consist of a committee of seven members of the county council, who would consult members from parish councils, medical associations, the Insurance Committee, and town councils. The whole scheme was remitted to the count councillors on the committee for final adjustment when an estimate of the total cost will be forth coming. On Jan. 9th at Inverness a conferenc was held of the various bodies in the county Inverness specially interested in the question medical service. Over 100 representative delegat from the mainland and islands were present. Th needs of the districts were fully discussed, an the opinion of the majority was that provisio should be made for a number of medical men sufficient for the various districts of the count with adequate accommodation and means o travelling to the various parts of their districts provision for consultation between medical men in serious cases and for specialised service; and provision for hospitals and nursing services at suitable centres, for means of communication between medical men and hospitals in scattered districts, and for conveyance to hospital. A protest was entered against remitting to the districts to deal with the question, as against a central committee, but the majority seemed in favour of dealing with the medical board as districts.

Jan. 13th.

IRELAND.

The National Insurance Act.

EACH doctor on the panel in Ireland has received a letter from the National Health Insurance Commission (Ireland), dated Jan. 6th of this year, pointing out, in reference to the term of agreement for certification which expired on Jan. 14th, that the Commission, in view of the negotiations at present in process, propose to continue the existing panel arrangements up to the end of the financial year—March 31st, 1914—on the terms and conditions mentioned in the previous agreement, and the Commission would be glad to learn if the panel doctors are willing to continue to serve for this further period. Further, it is announced that steps are being taken to have payment made to the several panel doctors for the services already rendered by them.

Association of Tuberculosis Officers.

A meeting of Irish tuberculosis officers was held recently in Dublin for the purpose of forming an association. It was unanimously decided to form such an association, its object being to examine the various problems arising in connexion with tuberculosis, and to protect the interests of the members. Mr. A. Lanigan O'Keeffe, of co. Tyrone, was elected chairman, and Mr. P. J. Burke, of co. Sligo, and Mr. M. Quinlan, of co. Kerry, joint honorary secretaries.

Military Distinction for an Irish Practitioner.

Mr. Charles Ronayne, of Youghal, co. Cork, served in the French lines as surgeon to an ambulance during the Franco-Prussian war, and the French Minister for War recently intimated to him that he intended conferring on him a medal in appreciation of his services. The medal was handed to the British Ambassador at Paris with a request that he would have it forwarded to Mr. Ronayne. Accordingly in due course the medal was presented to him by the French Consul at Dublin. Mr. Ronayne put himself in communication with the Secretary of State for Foreign Affairs, who, in reply, informed him that the King had been graciously pleased to allow him to wear the medal.

The Late Dr. C. J. Clibborn.

The death occurred suddenly on Jan. 4th of Dr. Cuthbert J. Clibborn, formerly a medical inspector of the Local Government Board of Ireland. He was 68 years of age. Born of an old Quaker family of the co. Westmeath, he was educated at Trinity College, Dublin, where he graduated M.B. in 1869. He subsequently practised in co. Wicklow. On his appointment as an inspector of the Local Government Board he was stationed in Belfast, and had charge for some time of the whole province of Ulster. At a later date it was found necessary to make the areas of inspection smaller. He retired from office three years ago. Dr. Clibborn was much respected as an official both by the members of his own profession and by the general public.

The Late Dr. J. C. Ferguson.

It is with sincere regret I announce the sudden death on Jan. 6th of a well-known and highly respected Belfast dispensary doctor, Dr. James C. Ferguson, at the comparatively early age of 58 years. His most intimate friends and relatives had not the slightest suspicion that he was in any way the subject of organic heart disease. Dr. Ferguson was born at Doagh, o. Antrim, where his father was a much espected surgeon. Having decided to follow in his father's footsteps, Dr. Ferguson studied at Queen's College, Belfast, where he had a most xcellent record, and in 1884 he graduated M.D. and M.Ch. of the late Royal University of Ireland, while n the next year he obtained the M.A.O. degree. The ollowing year he was appointed resident medical officer in the Belfast union infirmary, and in July, 888, he was selected as dispensary medical officer of Dock ward, while a few years ago he was transerred to the Ormeau ward district, of which he was dispensary medical doctor, and registrar of births, deaths, and marriages of No. 6 district. He was also physician to the Ulster Hospital for Women and Children. He was a great favourite with all in the Poor-law service. At a meeting of the Belfast local medical committee a special vote of condolence with Mrs. Ferguson was passed, on the motion of the chairman (Sir John Byers), seconded by Sir Alexander Dempsey.

Jan. 13th.

PARIS.

Insanity Statistics in Paris.

Dr. Auguste Marie, medical director of the Insane Asylum of Villejuif, has published some interesting statistics of insanity in Paris with special reference to occupation. The classification made by Parchappe some 50 years ago has long held sway. According to it the liberal professions always furnished the greatest number of insane; then in decreasing order came soldiers, sailors, domestic workers, people of private income, landowners, industrial workers, agriculturists, merchants, and tradespeople. Social evolution, by modifying the conditions of various occupations, has brought about important changes in this order, which, however, are not always the same in all countries. Among professional men the intoxications play a daily increasing rôle, while general paralysis consequent on syphilis claims more and more numerous victims among the middle classes and the rich, whatever their occupation. Dr. Marie's statistics deal with the cases of mental alienation observed recently in the population of Paris, and confirm this evolution; and the interesting point is the recorded percentage borne in each occupation in comparison with that of the total population. In stone-working trades, which furnish a considerable and altogether unexpected percentage, 492 insane are found out of 24,012 workers, or 2·04 per cent. In occupations dealing with the animal kingdom (drivers and stock-raisers) are found 671 insane out of 57,891, or 1·17 per cent. In chemical industries, or from lead intoxication, 649 cases of insanity in 63,220 persons, or 1·02 per cent. Among *commis-voyageurs* there are 1072 insane out of 37,398 persons who make their living thereby, or 2·85 per cent. The liberal professions and sedentary commercial occupations, which formerly headed the list, now give only 1·02 per cent. The occupations least affected by insanity are industries connected with the timber trade, with transport, and with alimentation, whose percentages vary from 0·48 to 0·85. On the whole, the class of workers is much more affected with dementia than used to be supposed before statistics were collected on this principle. Dr. Marie, it is true, includes in insanity very diverse mental ailments which were not formerly comprised therein when only dementia pure and simple was recorded; for instance, he includes in his statistics mental debility, mania, melancholia, enfeeblement of intellect, alcoholic insanity, and parasyphilis. The rôle played by alcoholism in the genesis of dementia in France is considerable, and is continually increasing in all the asylums in the country. Dr. Marie records a very curious new observation, viz., the increase of cases of madness in the various industrial occupations, due to the excitement of social conflicts and the Syndicalist struggle. The degenerates, who are to be found in all classes of society, accentuate the tendency to violence. Some of this class were found among the Post-office employees at the time of the strike of 1908–09. These were really feeble-minded persons, victims of moral shock due to the perturbations and diverse mental preoccupations occasioned by the strike. Dr. Marie thinks that these troubles may convert such subjects into leaders or inspirers of violence, such as is general enough in strikes, especially when accompanied by alcoholic excitement. He does not assert that all the leaders are of this class, though a certain number of them are.

already high digitalis has no power to raise it any higher.

For some years I have used digitalis in high-pressure cases—pressures varying from 200 mm. to 280 mm. Hg—and in no case have I had any untoward result. By that I mean to say that I have never seen the pressure rise under the digitalis treatment, nor have I seen a single case of cerebral, retinal, or other hæmorrhage during the treatment. I may, of course, have been fortunate in my selection of cases, but I find that what I have stated has been experienced by others as well as by myself.

Practically in every case there has been vast improvement—for a time at any rate. Naturally enough, the time comes when the heart refuses to react to digitalis at all. The doses used were not the minute and generally useless ones so often employed—namely, 3-5 minims of digitalis tincture three times daily (larger doses being so generally supposed to raise still farther an already high pressure) but doses of 15 minims of the tincture every four or six hours until the desired effect is produced. I have found that the better the result from the use of digitalis the healthier the cardiac musculature. Conversely, that the poorer the result from the use of the drug the more fibrotic the state of the cardiac structures.

As the subject is not a brief one, probably an example of a patient seen lately may convey more clearly my contention. On Boxing Day last I was asked to see Mrs. ——, aged 62, who was said to be in distress through her breathing. I found the patient in a state of orthopnœa. The slightest movement in bed increased the severe dyspnœa, showing that the "rest power" (MacKenzie) of the heart was exhausted. The forehead and face were deeply congested, the lips and ears cyanosed. The pulse was 110 and regular, save for a very occasional premature contraction, although premature contractions ought really to have disappeared with the increased pulse-rate. This occurrence is, I think, rare. The apex beat was 3½ inches outside the nipple line, and there was a clear systolic bruit in the mitral area, probably due to dilatation. There was also a systolic aortic bruit and a ringing aortic second sound. The patient complained of a feeling of constriction round the chest. The reading on the sphygmomanometer was 280 mm. Hg (the instrument was standardised and the reading was taken several times at short intervals). The vessels were moderately sclerosed.

This was a case where several things were obvious: (1) the state of the patient demanded immediate relief; (2) the risk of the advent of cerebral hæmorrhage was evident; (3) to have raised the pressure still farther (had such been possible) would have been still farther to court disaster; (4) the reduction of the pressure was imperative as it was above what the patient normally required, and the extra strain was crippling the left ventricle, apart from the other risks run. If, then, "it is the tension that determines the use of digitalis," and "if the tension be raised it (digitalis) will do harm"; if we are to accept these statements, this obviously was a case where digitalis ought certainly to have been withheld. The patient was ordered 15 minims of Parke, Davis, and Co.'s standardised tincture every six hours, along with sharp magnesium sulphate purges, a very limited milk diet, hot mustard foot baths, and a mixture containing spt. etheris, spt. ether. nitros., spt. chloroform., and spt. ammon. aromat., to relieve the breathing temporarily. In 24 hours the pulse was 94; the blood pressure had fallen to 220 mm. Hg, and the greater part of the dyspnœa had vanished. After 48 hours the digitalis was reduced to 10 minims every six hours until the pulse had dropped to 84, and then to 7½ and 5 minim doses until the rate was 76 and 74. On Jan. 6th the pressure was 200 mm. Hg (probably the normal—or necessary—for the patient), and all symptoms had disappeared; the breathing was easy and tranquil; the patient could move with ease; the malar turgescence had disappeared, and the pulmonary œdema was no longer present. This is only one case out of many where I have found exactly the same sequence of events; but it is typical of the group.

I must apologise for this long transgression on your space; but as these cases are numerous and their treatment important, and as general practitioners have to deal with many of them, the subject appears to me to be one of no little importance Not so long ago it was freely taught that t administer morphia in disease of the kidneys wa a dangerous, not to say fatal, proceeding, wherea morphia—and morphia alone—will frequently terminate the dangerous convulsions of uræmia It seems to me that the fear of giving digitalis in high-pressure cases is on a par with the now known to be erroneous teaching regarding morphi and renal disease. Strophanthus in my hands ha been a failure.

In a paper I read before the members of th Hunterian Society last year on this subject ther was no exception taken to these statements in th subsequent discussion—probably an indication tha the value of digitalis in this type of case is becoming more widely appreciated.

I am, Sir, yours faithfully,
A. GRAHAM-STEWART.

Cliftonville, Margate, Jan. 12th, 1914.

THE STERILISATION OF MILK AND ALLIED QUESTIONS.

To the Editor of THE LANCET.

SIR,—All who have had long and extensive clinical experience in the feeding and rearing of babes must agree with the frank and scientific leading article in THE LANCET (Jan. 10th, p. 118). Dr. J. E. Lane-Claypon's pamphlet mentioned: "They showed in the case of man and the lower animals alike that for the young of a given species there is an undoubted superiority—probably attributed to protein constituents—in milk derived from animals of that species over milk obtained from other species, whether sterilised or not."

In my work on "Feeding and Rearing of Children" (first edition, 1894) I write (Nature's Food, p. 26): "I think myself that among all animals who rear their young by the aid of milk there is a certain protein in the composition of such milk which is especially suitable for the requirements of the young of its species, and if recourse is had to the milk of one animal in order to feed the offspring of another there will be some deficiency in the growth and proper nourishment which soon becomes apparent, unless we can supply by artificial means the ingredient that is missing or deficient."

I may add that at that distant period I searched for any written opinion on the subject, but was unable to discover any.—I am, Sir, yours faithfully,

THOMAS DUTTON.
New Cavendish street, W., Jan. 10th, 1914.

To the Editor of THE LANCET.

SIR,—The evidence of the appalling effects of cooked milk upon the infant and child is so overwhelming to those who are in a position to appreciate the facts that it is terrible to think of the masses of children condemned to suffer such a diet. Owing to "the concurrent use of lemon or orange juice" to which you refer, the infant manages to survive *only that he may be further* plied with a profoundly unwholesome food. Every day I see children as ill as they can well be, with all sorts of mysterious diseases that have baffled their doctors—doctors who are good men at their work but who have not yet managed to grasp the fact that the elemental requirement of the offspring of all mammals is raw milk. It is too great a thing to attempt to cite the evidence in a letter, but I may cite certain documents. 1. Acute Intestinal Toxæmia in Infants, London, 1911. 2. The chapter on "The Bacteriology of Milk" in "The Nutrition of the Infant," London, 1913. 3. The Bacteriology of Alimentary Toxæmia in the Infant and Child.[1]

I may further cite the paper read by me before the New York Academy of Medicine on Nov. 13th, 1913, which is to be published on Feb. 1st, I am informed, in the *American Journal of Diseases of Children*, the title being "The Bacteriological Diagnosis and Treatment of Alimentary Disease in the Infant and Child." In these writings I describe diseased conditions which are of extremely frequent occurrence, and which cannot occur *in a child fed* on raw milk.

To prevent tuberculosis! Where is the surgeon who will advise a man to have his legs amputated in order that he may escape the danger of slipping upon orange peel? There is a violent contrast between the actual investigations of the Royal Commission on Tuberculosis and the Final Report. The investigations are overwhelmingly in favour of Koch's contentions. For the details I must refer those interested to my article in *Science Progress*, April, 1912, "Fallacies in the Report of the Royal Commission on Tuberculosis." "Fallacies" is a sufficiently mild word in the circumstances, for the Commissioners took the words of their scientific investigator, "bovine tubercle bacilli of human origin,"[2] and changed them into "bacilli of bovine source."[3]

I take this opportunity to express my high appreciation of the valuable contribution to the progress of scientific medicine which Mr. Robert Mond has made in his recent communication to the *Times*. May I be allowed to add a quotation from Robert Koch's address (1901)? "It is well known that the milk and butter consumed *in great cities* very often contain large quantities of the bacilli of bovine tuberculosis in a living condition, as the numerous infection experiments with such dairy products on animals have proved. Most of the inhabitants of such cities daily consume such living and perfectly virulent bacilli of bovine tuberculosis and unintentionally carry out the experiment which we are not at liberty to make. If the bacilli of bovine tuberculosis were able to infect human beings many cases of tuberculosis caused by the consumption of alimenta containing tubercle bacilli could not but occur among the inhabitants of great cities, especially children. And most medical men believe that this is actually the case.

In reality, however, it is not so. That a case of tuberculosis has been caused by alimenta can be assumed with certainty only when the intestine suffers first—that is, when a so-called primary tuberculosis of the intestines is found. But such cases are extremely rare. Among many cases of tuberculosis examined after death I myself remember having seen primary tuberculosis of the intestine only twice. Among the great post-mortem material of the Charité Hospital in Berlin ten cases of primary tuberculosis of the intestine occurred in five years. Among 933 cases of tuberculosis in children at the Emperor and Empress Frederick's Hospital for Children Baginsky never found tuberculosis of the intestine without simultaneous disease of the lungs and the bronchial glands. Among 3104 necropsies of tuberculous children Biedert observed only 16 cases of primary tuberculosis of the intestine. I could cite from the literature of the subject many more statistics of the same kind, all indubitably showing that primary tuberculosis of the intestine, especially among children, is a comparatively rare disease, and of these few cases that have been enumerated it is by no means certain that they were due to infection by bovine tuberculosis."

I am, Sir, yours faithfully,
RALPH VINCENT,
Senior Physician and Director of the Research Laboratory, the Infants' Hospital, London.
Harley-street, W., Jan. 10th, 1914.

TREATMENT OF GASTRIC AND DUODENAL PERFORATION.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 10th there appeared a paper by Mr. Edred M. Corner on this subject, in which the writer recommended a form of operation which, to my mind, is only justified on the rarest occasions.

Whilst in the title of the paper both gastric and duodenal perforations were included, in the text no direct reference was made to the latter type of case. Any form of operation which involves the establishment or even the risk of a duodenal fistula is essentially a bad operation, for there is no more rapid form of what may be called physiological death than that resulting from duodenal fistula.

It is reckoned that not less than five or six pints of fluid secretions are poured into the duodenum and reabsorbed lower down in the intestine in the 24 hours, and the rapid emaciation which follows the loss of even part of this secretion is very striking. In the Edinburgh statistics on 200 cases of perforated duodenal ulcer[1] there were three cases in which the perforation was not closed at the operation, but merely drained to the exterior. "All three cases died within a few days with rapid emaciation and asthenia, illustrating how imperative it is that the perforation be closed in one way or another at the operation." Whilst this danger does not exist in the case of gastric fistulæ, there are as rapid, and certainly cleaner, ways of dealing with the perforation than by tamponade.

In cases where the gastric wall around the perforation is so indurated and œdematous that invagination is impossible, the opening may be closed by a plug of omentum, as first recommended by Bennett.[2] In the rare cases of perforated duodenal ulcer in which invagination is impossible the same method may be employed or the gall-bladder may be stitched over the perforation. If the patient be submitted to operation within a few hours of the perforation all elaborate methods for draining the abdomen with gauze packs, &c., are unnecessary and may be harmful.

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[1] Proceedings of the Royal Society of Medicine, May, 1913.
[2] Final Report, Part 2, Appendix, Vol. I, p. 532.
[3] Second Interim Report, p. 23.

[1] Edinburgh Medical Journal, November, 1913.

The dramatic onset of the illness in these cases rarely leaves any doubt as to the diagnosis; therefore an incision should first be made in the upper part of the abdomen to gain access to the perforation. This should be closed by invagination if possible, and where this is not feasible by an omental plug or stitching to a neighbouring viscus. If there has been much escape of gastric or duodenal content a tube may be inserted into the pelvis through a suprapubic stab-wound and the upper wound closed. If little escape has occurred the peritoneum may be left to look after itself and the abdomen may be completely closed. Such an operation takes no longer than that advocated by Mr. Corner, and the after-treatment of the case is much simpler—an important point where the patient is in a private house or at some distance from the medical man.

I am, Sir, yours faithfully,

Edinburgh, Jan. 12th, 1914. D. P. D. WILKIE.

ANTS AS TRANSMITTERS OF TROPICAL DISEASE.

To the Editor of THE LANCET.

SIR,—The annotation entitled "Ants as Transmitters of Tropical Disease," which appeared in THE LANCET of Jan. 10th, serves a useful purpose in directing attention to a matter which is possibly of very considerable importance, and which until recently had not received the attention it appears to merit. You kindly mention the suggestion I made in 1908 and refer to the interesting work of Dr. Bates on the mechanical transmission of B. typhosus and B. dysenteriæ by a species of large ant in the Canal Zone. I would like to mention that it was Dr. S. T. Darling who re-directed attention to this question, and that Messrs. Bates, Jacob, and Jennings carried out the necessary tests under his direction.

Dr. Darling's paper, which appeared in the Transactions of the Fifteenth International Congress on Hygiene and Demography, is entitled "The Part Played by Flies and other Insects in the Spread of Infectious Diseases in the Tropics, with Special Reference to Ants and to the Transmission of Tr. Hippicum by Musca Domestica."

I had hoped to carry out at Khartoum experiments on the lines of those conducted by Dr. Bates and his colleagues, but was unable to do so. At the same time I made one observation which is of some interest, and to which I think I once referred at a meeting of the now defunct Society for the Destruction of Vermin. A species of large ant in the Sudan has a great liking for urine. It haunts chamber-pots. This idiosyncrasy is not to be explained by a mere love of fluid, for if urine be allowed to dry in a vessel the ants are almost certainly to be found crawling over the dry uratic deposit which in the tropics so often results. I am inclined to think that urea has a special attraction for them, though no doubt liquid and moisture also entice them.

This being so, it is possible that in certain cases ants might transmit the Micrococcus melitensis in food such as milk or cheese. In the same way B. typhosus might be carried from the urine by these insects. It is not very likely that either of these accidents happens in nature, but it is worth while keeping the possibility in mind, for sometimes isolated sporadic cases of undulant fever and enteric fever crop up and are very difficult to explain. In any case, it is to be noted that urine and urinary deposits serve to attract a species of large ant which is very common in Khartoum, but the scientific name of which I have unfortunately forgotten. I am, Sir, yours faithfully,

ANDREW BALFOUR.

Wellcome Bureau of Scientific Research,
Wigmore-street, W., Jan. 13th, 1914.

THYROID SECRETION AND ANTITOXIN.

To the Editor of THE LANCET.

SIR,—In reference to my article entitled "The Relation of the Thyroid to Antitoxin," which appeared in THE LANCET of Dec. 27th, 1913, I am informed by Dr. A. T. MacConkey that he does not use potassium mercuric iodide as an antiseptic, and that as regards the sera supplied by the Lister Institute, any iodine present cannot be accounted for in this way. In the annotation upon the same subject, which appeared in the same issue, "the toxic effects induced in rabbits by injection of antitoxic serum," should read, "the toxic effects induced in rabbits by *feeding* with antitoxic serum."

I am, Sir, yours faithfully,

RUPERT FARRANT.

Queen Anne-street, Cavendish-square, W., Jan. 7th, 1914.

THE PATHOLOGY OF RHEUMATOID ARTHRITIS.

To the Editor of THE LANCET.

SIR,—I have read with much interest the letter on this subject contributed by Dr. P. W. Latham to THE LANCET of Jan. 10th. In the second column on p. 145 and on p. 146 he expresses his opinion that the presence in the blood and tissues of the "products of imperfect metabolism of muscular and other tissues" "imperfectly excreted" enable micro-organisms otherwise avirulent to become pathogenic, and so cause arthritis. My experience of fibrositis—and periarthritis and many conditions at present described as rheumatoid arthritis are forms of fibrositis—has led me to the belief that not only does imperfect elimination of waste matter enable pathogenic organisms to develop and become virulent, but that these materials are sufficiently toxic to be themselves a cause of fibrosis and fibrositis. I have dealt with this in some detail in a paper published in the Transactions of the Royal Society of Medicine (Balneological Section, April, 1913), entitled "Daily Habits in Civilised Life as Factors in the Causation of Fibrositis," and hope with your permission to present certain aspects of it to your readers at an early date. If the view thus expressed is correct, in all conditions of chronic arthritis and fibrositis and possibly in most diseases of middle and later life, the vitiation of the blood and tissues caused by imperfect elimination of waste products—a condition I have ventured to name "dyscatharsia"—is a very important, if not the most important, factor.

In recent years in the study of the seeds of disease too little attention has been paid to the soil, *especially to the soil of the adult, modified as* it necessarily is by the habits and environment of years.

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[2] THE LANCET, August 1st, 1896.

I hope Dr. Latham will be able to publish at an early date his promised further contribution on this subject. I am, Sir, yours faithfully,

Llandrindod Wells, Jan. 13th, 1914. R. ACKERLEY.

DISLOCATION OF THE PROXIMAL PHALANX OF THE GREAT TOE.

To the Editor of THE LANCET.

SIR,—I was called a few days ago to a miner who had been caught by the trouser pocket by a revolving wheel and swung violently round the room. His injuries consisted of skin scratches in various parts and a dorsal dislocation (easily reduced) of the proximal phalanx of the great toe on one foot. At the time of the accident he was wearing the heavy boots common to miners.

The case is interesting in connexion with that mentioned by Dr. Henry Robinson in his letter in your columns last week and your previous annotation. I am, Sir, yours faithfully,

GEORGE F. RIGDEN, M.B., B.S. Lond., M.R.C.S., L.R.C.P.

Cinderford, Glos., Jan. 10th, 1914.

IMPROVEMENTS IN THE NAVAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—The recent alterations and improvements in the Naval Medical Service announced in your Service news have been long asked for.[1] I think it would have done more good to recruiting had better pay been given, particularly increased pay for higher qualifications—1s. a day for each extra qualification obtained within the first ten years of service, 2*s*. for each obtained in the next ten (to encourage officers to go through courses when they are becoming rusty), and 2*s*. 6*d*. for any obtained after 20 years. Executive officers who get higher qualifications are paid better—from 1*s*. 6*d*. to 4*s*.—as gunnery, torpedo, or navigating officers, although they get their education at the public expense.

I am, Sir, yours faithfully,

Jan. 10th, 1914. FLEET-SURGEON, R.N.

THE NATIONAL INSURANCE ACT: THE SURPLUS FUNDS.

To the Editor of THE LANCET.

SIR,—Reading in THE LANCET of Jan. 10th Mr. E. Nundy's letter, and your further comments, on the distribution of unallotted National Insurance funds, I venture to invite your readers to consider a suggestion which I have embodied in a letter to the Insurance Commissioners. It has struck me that part, at any rate, of the unallotted fund, after all doctors have been paid what is due to them, might well be retained as a reserve fund for doctors who have promptly gone to a midwife's assistance, when, owing to the poverty of the patient, there is a difficulty about the fee. The weekly wage of the insured person might be taken into consideration, for those who can afford it are generally found quite willing to pay.

The recent case of a patient's death after a *midwife had sent for several doctors, and the* coroner's remarks at the inquest, is still fresh in our memories, but no one, least of all the midwife, expects a doctor to do arduous work for nothing. Things have made strides since the days of my training, but it may not be out of place to remark here that on one occasion I sent for ten doctors in succession, with refusals from each one, to come to my assistance for a transverse presentation. Happily I had wisely done this early enough in labour that there was no immediate danger to my patient, and ultimately two women doctors arrived with chloroform. I did not blame the doctors then, nor do I do so now; it was midnight, a blizzard, and I, a stranger, calling them to the poorest of tenement houses. Only one or two touched upon the fee question; besides which, each one who refused did not know that nine others would do the same; and I have since known many who rise from their beds to do arduous work without much hope of monetary reward.

Reports of the Central Midwives Board penal cases show how many midwives are removed from the roll for failure to send for medical aid. But, whatever happens afterwards, the Board holds a midwife to be free of blame if, in obedience to the rules, she has called in a doctor on the first recognition of symptoms for which she is forced to send for medical assistance. A reserve fund for adequate payment of doctors when attending very poor cases would benefit both doctors on the panel and those who are not. It would benefit the midwife, who would not hesitate to get help early in labour, resulting in easier work for the doctor who comes to her assistance. It would benefit the poorest of insured patients by relieving them of the anxious worry of another fee to pay, leaving more for *nourishment, which, with freedom from* worry, might prevent loss of milk, to the benefit of the child. Lastly, it would benefit the State by preserving (who knows) a Prime Minister or a Poet Laureate, and thereby decreasing the infant mortality.—I am, Sir, yours faithfully,

JANET EWART STCLAIR,
Honorary Secretary, Fulham Association of Midwives.
Irene road, S.W., Jan. 10th, 1914.

CENTENARIANS.—The death is announced at the village of Newcastleton, Roxburghshire, of Mrs Helen Kerr in her 104th year.—Mrs. *Lambert has recently* celebrated her 100th birthday at Edmonton.

ROYAL LONDON OPHTHALMIC HOSPITAL.—The eighth annual dinner of past and present students will take place at the Imperial Restaurant, Regent-street, W, on Tuesday, Feb. 3rd, at 7 45 for 8 o'clock, Mr. G. A. Berry, LL D., F.R.C S Edin, in the chair. Each student is entitled to introduce two guests. Tickets (price 10*s* 6*d*. each, exclusive of wine) may be had on application to either of the honorary secretaries—Mr. Arnold Lawson, 12, Harley-street, W., or Mr. J. Herbert Parsons, 54, Queen Anne-street, W.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH: SCHOOL MEDICAL SERVICE GROUP.—*A general meeting* of the North-Western Branch of this body will be held in the Milton Hall, Deansgate, Manchester, on Saturday, Jan. 24th, at 2.30 P.M Important matters will be considered, such as the improvement of the status and remuneration of the service, consideration of security of tenure in relation to increase of salary, necessity of including public health work to relieve *the monotony* of medical inspection, and the advisability of forming a north-western branch group of the main group of the society.

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[1] THE LANCET, Dec. 6th, 1913, p. 1649.

THE NATIONAL INSURANCE ACT.

THE MANCHESTER SYSTEM.

IN a recent report of the Medical Committee at Manchester upon the working of the National Insurance Acts for the quarter ending Sept. 29th, 1913, it was stated emphatically that the medical practitioners had carried out their work without friction so far as their patients were concerned, and that relations with pharmacists had been amicable under a serious strain. The same document, however, dwelt upon the inadequacy of the estimates of sickness and the consequent financial difficulty as affecting Manchester, and pointed out that this difficulty arose out of the provision of one fixed sum per head to defray the expense of medical attendance and drugs throughout the country. This flat rate assumed that sickness in Manchester and similar cities and towns would be the same in frequency of occurrence and in seriousness as in rural districts and health resorts, and as in Manchester a system of payment by attendance was adopted the soundness of the official estimate as applied to the health of such a population has been put to a practical test. The result shows up to the present that the money available is insufficient, and the sufferers are likely to include the medical practitioners, the pharmacists, and the Approved Societies, these last being able, to some extent, to do what the others cannot—namely, to recoup themselves in healthy areas for their losses where sickness is more prevalent. As a remedy for the difficulty, and in order to restrain any tendency on the part of the medical profession to respond unnecessarily to claims for their attendance, as well as to keep the number and cost of prescriptions as low as possible, the following conditions are proposed for the regulation of medical attendance and the provision of medicines at Manchester:—

1. The Panel Committee shall ascertain from the monthly accounts rendered by practitioners the average cost per patient in respect of the treatment given by each practitioner during each month, and may, if they so think desirable, take the general average cost per patient in respect of the treatment given to the whole of the patients within the area of the Insurance Committee for each monthly period as the basis upon which the amount to be credited to each practitioner shall be determined, provided that, if the Panel Committee so think desirable, such amount shall not exceed in the aggregate a sum of £800 per annum.

2. The Panel Committee shall ascertain from the monthly accounts rendered by (*a*) practitioners and (*b*) chemists and contractors undertaking to supply drugs and appliances, the average cost per patient, the average value per prescription, and the average number of prescriptions per patient in respect of the prescriptions given by each practitioner during each month, and may, if they so think desirable, take the general average cost per patient, the general average value per prescription, and the general average number of prescriptions per patients (or any of them) in respect of the prescriptions given to the whole of the patients treated within the area of the Insurance Committee for each monthly period as the basis upon which deductions to be made from the amounts payable to practitioners shall be determined.

Our Manchester correspondent (see p. 205) reports willingness among medical men to agree to these terms, which not only mean the cutting down of every income derived from panel work to £800 or less, but impose a limit on the free choice of a medical attendant, which has been claimed on behalf of patients by the medical profession.

THE QUESTION OF DRUGGISTS' CHARGES AT SALFORD.

At Salford the Insurance Committee has had the same difficulty as the Manchester Insurance Committee in endeavouring to meet the cost of prescriptions under a system of payment by attendance. A letter to the Insurance Commissioners stating that the sum at the disposal of the Committee only enabled it to pay 70 per cent. of the chemists' charges brought a reply to the effect that the deficiency seemed to be due to the number, not the nature, of the prescriptions given, and that if this state of things was traceable to the special arrangements made in Salford the medical profession and the druggists must arrange the matter between them before the Commissioners could approve a continuance of the special arrangements referred to. A proposal made on the basis of an agreement arrived at between the medical men and the pharmacists failed later to secure the approval of the Commissioners as not coming within the Regulations, and the situation appears now to be that the pharmacists sign contracts for another year on the understanding that a scheme in substance the same as that mentioned shall be worked under Rules 39 and 40 of the new Regulations, and presumably the strict exercise of the powers given by these two rules to panel committees will to some extent have the effect desired. It is not suggested that the patients at Manchester or Salford have had anything to complain of. It is evident they have n expressed dissatisfaction at excess of medical atten ances or medicines, and it is yet to be seen wheth the proposed curtailment of both will meet wi their approval. It must be said at the same tim that the figures recently published at Salford sho a deficit even more formidable than that referred above. The sum available to Nov. 14th, 1913, wa £6833, to meet claims amounting to £10,000—i.e very little more than two-thirds. It may also b added that hard things have been said by members of the Salford Insurance Committee against some of the medical men alleged to have prescribed excessively. Their conduct has been contrasted with that of the majority of their colleagues, and the possibility of obtaining their removal from the panel has been distinctly hinted at.

LEICESTER INSURANCE COMMITTEE: THE UNALLOTTED FUNDS.

The Leicester Insurance Committee has a balance in hand of £1500 available for medical benefit, and the Medical Subcommittee has recommended its distribution between the practitioners on the panel in accordance with the number of patients on their lists. At a recent meeting of the committee the matter was referred back for further consideration after a member of the committee, Mr. T. F. Richards, had advanced th opinion that the distribution proposed would b "a bonus for something the doctors had not done," and recommended the expenditure of the money in sanatorium benefit. The injustice and mis understanding involved in such a contention cannot be too emphatically pointed out. Whate may be the legal position with regard to surpl medical funds, they were contributed by employe and employed under legal compulsion as paymen to the medical profession for medical benefit. Ever insured person, well or ill, has had in return the promise of the money in question attendance as his right throughout. The money was promised to the medical men serving on the panels, and it was agreed by the medical profession to accept a rate of payment which would have been inadequate if every insured person was to be a patient requiring medical attendance, on the ground that many would not, in fact, need medical aid, and that their money would go towards paying for those who did.

A MEDICAL INSTITUTE REJECTED BY THE COMMISSIONERS.

The Boston Medical Institute appears to be an organisation established by the local Approved Societies of the district in order to provide medical attendance for persons not coming under the National Insurance Acts, but will accept transference to it of insured persons willing to be so transferred. The Insurance Commissioners have refused, however, to accept the Boston Medical Institute for recognition under the Insurance Acts on the ground that it was not in existence when the Insurance Act, 1911, was passed, and the medical men practising upon the panel within the district from which the institute draws its members are to be congratulated. Working men will in time recognise generally the badness of the policy of sacrificing the medical attendance provided by the Insurance Act in favour of the medical attendance provided by such institutes.

BOROUGH OF LAMBETH INSURANCE PRACTITIONERS' ASSOCIATION.

At a meeting of the executive committee of this association, held on Jan. 6th, at Stockwell, Mr. J. Fleming in the chair, the proposed action of Mr. Nundy against the London Insurance Committee was considered and discussed. The following resolution was passed unanimously:—

> That this meeting of the Borough of Lambeth Insurance Practitioners' Association executive committee desires most strongly to dissociate itself with the proposed legal action which Mr. Edward Nundy, of Tooting, contemplates entering nto against the London Insurance Committee. This meeting considers such action detrimental to prospects of amicable settlement and inadvisable, as likely to lead to many unforeseen complications.

The secretary was instructed to forward copies of this resolution to Mr. J. A. Dawes, M.P., chairman of the London Insurance Committee, Mr. Thomas Batey, the Chancellor of the Exchequer, and the Insurance Commissioners, also to write to Mr. Nundy expressing the views of the meeting. The meeting considered that if any legal action became necessary the proper body to undertake it was the Panel Committee.

THE TUBERCULOSIS DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.—Owing
new department the following
have been appointed—namely,
Candler, and Dr. A. S. McNalty.

LIVERPOOL HEALTH DEPARTMENTS. — Major C. E. Norton, of the Local Government Board, held an inquiry on Jan. 13th at Liverpool into the application by the Liverpool city council for power to borrow money for the erection of a building to accommodate the departments of the city bacteriologist and city analyst. It is further proposed to make provision in the new building for the school of hygiene of the University of Liverpool.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the First Professional Examination of the Conjoint Board, held on Dec. 30th and 31st and Jan. 1st and 2nd the following candidates were approved in the under-mentioned subjects:—

Hospital.
Chemistry.—Richard Ambler, Middlesex Hospital; Hussein Amin, Cairo and St. Bartholomew's Hospital; Herbert Claude Apperly,
South-Western Polytec
Liverpool University;
tute; Edward Francis
Houghton, Manchest
University and Guy
Birmingham University; Charles Farrell Rainer, London Hospital.

Charles Woodroffe, Guy's Hospital.

At the Second Professional Examination in Anatomy and Physiology held on Jan 1st, 2nd, 5th, and 6th, 75 candidates presented themselves, of whom 42 were approved and 33 were rejected. The following are the names and schools of the successful candidates:—

Willoughby Oxford Universities;
Edward University; Frank
Macdonal and King's College;
Charles H tholomew's Hospital;
Hugh Sta rthur Bulleid, Guy's Hospital; Alan Andreas Cockayne, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Walter Tyrrell Cooper, Charing Cross Hospital and King's College; Marcelline de Costa, Ceylon Medical College and University College; Alexander John D'Souza, L.M. & S. Madras
pital; William Felix Ebe
Charles Arthur Lovatt
William Farquharson,
Collingwood Fenwick,
Fonseka, Ceylon Medi
Maurice Rolfe Vickers
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An Address

ON THE

PATHOLOGY OF SYPHILIS, ESPECIALLY IN ITS BEARING ON TREATMENT.

Delivered before the Medical Society of London on Jan. 12th, 1914,

By W. d'ESTE EMERY, M.D., B.Sc. Lond.,

DIRECTOR OF THE LABORATORIES AND LECTURER ON PATHOLOGY AND BACTERIOLOGY, KING'S COLLEGE HOSPITAL, LONDON

Mr. President and Gentlemen,—Syphilis is perhaps of all others the most interesting disease at the present time. For centuries past it has been, from its commonness and from its serious nature, a disease of the utmost importance; but it has been a mystery, and a mystery which the passage of time has done but little to elucidate. Indeed, if we compare our knowledge of syphilis of ten years ago with that of the most educated physicians of a period 50 years after the discovery of the Americas and the subsequent spread of the disease over the civilised world, we can find comparatively little that has been added of fundamental importance. The clinical manifestations of the disease had been more carefully studied, and some knowledge—useless and not altogether accurate—had been gained as to the morbid anatomy of its lesions; the use of mercury was perhaps more scientific, and another remedy, iodide of potassium, had been introduced—the latter perhaps not an unmixed benefit; and, most important of all, the syphilitic nature of two diseases of enormous importance, themselves of comparatively recent discovery, had been firmly established. I allude, of course, to tabes and general paralysis.

ADVANCES IN KNOWLEDGE OF SYPHILIS.

What a change at the present day! Thanks to the researches of Schaudinn, Metchnikoff, Wassermann, Ehrlich, and others, we have now as good a knowledge of syphilis as of any other disease, except perhaps malaria.

Let me recapitulate briefly what I mean by saying we understand an infective disease. I mean that we know the organism which causes it, so that we can recognise it with certainty, and make use of its demonstration in diagnosis. Further, we must know how this parasite behaves outside the body, its vitality, and its intermediate hosts, if any; we must know how it gains access to the body, and what causes facilitate its invasion; when arrived in the body, we must know the regions it attacks, and the methods by which it is disseminated therein, should such dissemination occur; what toxins it produces, and how they injure the tissues and, still more important, alter the normal physiological processes, and thus give rise to the symptoms of the disease. We must also understand those elaborate and complicated processes which all micro-organisms set up in the living body, and which we refer to as the reactions of immunity—that is to say, we must understand how the body defends itself against the invaders, and how natural recovery, should it occur, is effected. We must have a test which will enable us to diagnose the disease early, or when clinical symptoms are ambiguous. We must have a cure, which if properly applied is a practically certain one; and, lastly, we must have some means of telling when a patient is actually cured and the disease is dead and not merely sleeping.

Now I do not say that there are no gaps, and those of great importance, in our knowledge of syphilis, but I think I can say that, whereas ten years ago our knowledge was almost all gaps, now the unexplored fields loom very small beside the territory which has been fully surveyed and is definitely known. I think we may say with Shakespeare, "And is not this an honourable prize, a gallant spoil?" and reply with him, "It is a conquest for a king to boast of."

I have attempted to-night, very ambitiously, to outline to you our know [illegible] from the point of view of [illegible] more especially the beari [illegible] treatment of the disease. This is a large subject, and with your permission I will plunge at once into the heart of the matter.

THE TREPONEMA PALLIDUM.

As regards the cause of syphilis, there is at the present time no doubt that the spirochæta pallida or treponema pallidum of Schaudinn is the actual *materies morbi*. It fulfils all Koch's postulates; it is present (though sometimes in scanty numbers and not easy to find) in all stages of the disease; it can be cultivated outside the body and the cultures kept going for many generations, so that we can be certain that no trace of the original material is present; and these cultures will convey the infection to the lower animals and in all probability to man. It has, as far as we know, no independent existence outside the body, and under such conditions rapidly dies; infection, therefore, is almost always direct, and the conveyance of the virus by fomites only possible for short periods of time. It has no intermediate host and is, under natural conditions, an exciter of disease in Homo sapiens only. I do not think I need take up your time by discussing its morphology, which is now so well known. And as regards its life-history, I need only say that I for one am unconvinced by those who claim to have demonstrated a complicated life-cycle. The fact that the organism exists as a spirochæte in lesions in all phases of the disease, from the primary chancre and even from an earlier stage (Levaditi and Yamanouchi), to the last stage of tabes and general paralysis, that it can be cultivated for many generations, during which (except for a few occasional spherical bodies which are probably involution forms) it remains a spirochæte, shows that there is no necessity for assuming any other form in its life-history. However, the question is entirely one for demonstration, and at present we must be content with regarding the alleged life-cycle as non-proven. I need hardly remind you that some still regard the organism as a bacterium, and that if this is the case the existence of a complicated life-history is impossible.

THE EARLY STAGES OF INFECTION.

Let us now trace out, as well as we can, what takes place when a person is infected with syphilis. There is, to begin with, a period of three or four weeks during which there are no obvious effects whatever, but in which the spirochætes are known to be multiplying in the epithelial and subepithelial tissues, and causing in them a very slight degree of the histological changes characteristic of syphilis. After a time the picture changes suddenly; there is sudden outburst of activity in the parasites; they multiply rapidly and liberate their toxins, which and especially cell degeneration, are present. According to Noguchi the reaction obtained with his true antigen may be taken as a fair proof of the defensive reaction, whilst the ordinary Wassermann reaction is some measure of the extent of the syphilitic processes. It is not, however, exactly quantitative, since a patient in whom there is a strong Wassermann reaction may show comparatively slight histological changes in the tissues, and *vice versâ;* but I think that in general terms the potency of the Wassermann reaction in any particular patient is roughly proportional to the extent of his lesions, diminishing as they are cured and becoming more marked as they increase. You will notice that the Wassermann reaction usually appears about the middle or end of the primary stage—that is, about the time that the tissue cells and lymphocytes have had time to collect round the colony of organisms and to undergo degeneration, and that it becomes much stronger during the secondary period, when the histological changes are so much more widespread.

A very difficult question arises in regard to the occasional disappearance of the Wassermann reaction in later tertiary syphilis in spite of active syphilitic lesions. This is, I think, especially common in congenital syphilis, in that it is not uncommon to find patients of middle age with marked symptoms of congenital syphilis but with no Wassermann reaction or with a very weak one. The explanations which may be suggested are purely theoretical. It is possible, for example, that in these long-standing cases the body and the affected cells may have had time to adapt their metabolism to the new conditions, and that though the toxin may compel them to suffer degeneration this may not take precisely the same form as in the person who has been but recently infected. Or perhaps the body may develop some method of dealing with the products of cell degeneration which in the earlier stages of syphilis circulate for long periods in the blood. On the whole I think this is the more probable explanation. We know from the researches of Abderhalden and others that the body has many methods of dealing with foreign substances, and it is quite in accordance with experience in other conditions that it should evolve some way of destroying or absorbing the Wassermann substance when present in the blood for long periods of time.

In some cases, perhaps in all, the tissues of the patients in these advanced cases may be made to produce the Wassermann substance by the administration of salvarsan, as in the so-called provocative reaction. Salvarsan, as I shall show later, kills numerous spirochætes, thus releasing much endotoxin and causing a sudden outburst of cell degeneration. If the explanation of the absence of the Wassermann reaction I have suggested is correct, this would indicate that the mechanism which can deal with a small amount of the Wassermann substance is unable to cope with a large quantity. It is interesting to notice that these old cases of syphilis which give no Wassermann reaction usually give a marked luetin reaction, and this is especially the case after they have been treated with salvarsan or mercury.

The important practical point to remember is that the presence of a Wassermann reaction indicates the presence of active disease. Its absence, on the other hand, does not necessarily imply complete cure, except, perhaps, under conditions which I shall discuss subsequently.

THE ACTION OF DRUGS.

I pass on to deal with the action of drugs. Mercury and salvarsan are direct spirillicide agents, exerting a direct action on the organisms comparable to that of quinine on the malaria parasite. In the case of salvarsan there is direct *in vitro* evidence of this, but in the case of mercury the proof is indirect, though not less convincing. The effect of either of these drugs is to cause a more or less rapid destruction of the parasites, with liberation of their protein molecules. Hence, there is a very important indirect result—namely, a sudden increase in, or production of, the negative phase, and a subsequent increase in the production of antibodies. The latter phenomenon is, I think, responsible for no small part of the curative effect of the agents in question; they kill some of the spirochætes, and these killed bacteria then act as a vaccine, causing a production of antibodies which carries their curative action still further. How much of the beneficial effect of these drugs is due to their direct chemical action and how much to the secondary vaccine-like effect it is impossible to say.

You will have noticed that I speak of the solution of the spirochætes as a necessary condition for the production of antibodies and also for the development of toxic symptoms. This is the case with many protozoa, which when they inhabit the blood cause no symptoms unless they are first killed and dissolved, or unless, as in the case of malaria, t enter and destroy the red corpuscles; and in t case they cause symptoms only when the corpuscles themselves are dissolved. Trypanc mata can flourish in large numbers in the bloo a guinea-pig, and cause no impairment of he whatever; but when a large dose is injected s of the animals may die, and in these no trypa somes can be found in the blood or internal org having doubtless been dissolved by the trypanoci substances in the blood (Wolff-Eisner). This is course, an example of the general law *corpora n agunt nisi soluta,* and it is a principle to bear c stantly in mind in dealing with the action these drugs.

The Herxheimer and other Reactions.

Take, for instance, the very important ph nomenon known as the Herxheimer reaction. is well known, the first effect of mercury, especial if given in a form in which the system is rapid brought under its influence, is in many cases t cause a marked intensification of the rash, or there be no rash present one may rapidly form; i addition to this, tonsillitis may appear or may b made worse, syphilitic headache, iritis, &c., ma also be produced, or if present may be aggravate The same thing, even more marked, may be see after an intravenous injection of salvarsan; her a very large amount of an active spirillicide agen is thrown into the blood at once, many spirochæte are destroyed in a few hours or minutes, and muc endotoxin is set free; the symptoms are often mad decidedly worse for a few hours or a day or so and it is always well to warn the patients of the fact. A similar phenomenon may be seen in the primary stage; the day after the injection the chancre may swell and become exquisitely painful and even bleed profusely; and in this or in the secondary stage there may be high fever, which is certainly not due altogether to the presence of dead bacteria in the water, since it may occur when a dose of neosalvarsan is given in a small amount

(5 c.c. or less) of recently distilled water, as I have observed several times of late.

All these modifications of the Herxheimer reaction are due to the spirillicide action of the drugs in question, the dead organisms either undergoing autolysis or being dissolved by the spirillolytic substances in the blood, in either case with the formation of soluble substances which cause a reaction when they act on the hypersensitive tissues in the neighbourhood.

The iodides have no such action, so that it is sometimes recommended that we shall treat cases showing marked affections of the mucous membranes, such as laryngitis or tonsillitis, with these agents rather than with mercury or salvarsan. This, however, is a mistake, for the iodides have very little, if any, spirillicidal action, and relieve the symptoms rather than cure the disease. There is more reason for the use of iodides at the commencement of the treatment of diseases such as iritis and meningitis, in which a temporary flare-up of the symptoms may cause severe damage to the delicate tissues in the neighbourhood, but they must be followed by mercury or accompanied by small doses of that drug. The iodides, I may say, appear to act rather as an antitoxin than as a germicidal agent.

There are two other effects which may be produced by the action of mercury or salvarsan. The provocative reaction I have alluded to already, and have explained how it is caused by the destruction of organisms, the liberation of their toxin, and the consequent increased degeneration in the granulomata, with production of the Wassermann substance. The other effect is this: it may happen that the luetin reaction is absent in a late stage of the disease, and when this happens it can usually be made to appear by the exhibition of mercury or salvarsan. This is caused in a manner exactly analogous; the dead protoplasm set free by the destruction of the spirochætes sensitises the tissues to such an extent that they react to the same antigen in the form of luetin.

Disappearance of Wassermann Reaction in Relation to Cure.

When a patient has been vigorously treated with mercury the strength of the Wassermann reaction, as I have just remarked, tends to fall off, and this process continues until it disappears altogether. The negative Wassermann reaction at this stage depends on the absence of cell degeneration, and
ot prove that the spirochætes
treatment is stopped too soon
reappears, feebly at first, but
ongly, as the few spirochætes
hat have escaped destruction awaken into activity.
This raises a most important problem: having
emoved the Wassermann reaction by mercury, how
ong are we to wait before its non-reappearance
enotes the cure of the disease? In my own
xperience it usually comes back in three months,
ut may often be delayed for six. Occasionally it
nay be delayed much longer, and I have once known
to reappear a year after the cessation of treat-
ent. I am under the impression that this may be
garded as a safe limit.

THE TERTIARY STAGE.

When I come to deal with the tertiary stage, or
age of gumma formation, I must admit that I am
considerable difficulty in finding a complete and
mple explanation of the facts. The immunity
actions are now complex. The spirochætes are now rarely found in the blood, and are indeed present in but small numbers in the tissues; I think we may take this as indicating a blood immunity to the parasite. The spirillicide powers of the blood have come back to normal, or may indeed be increased. But the tissues are still sensitive. This is shown, amongst other things, by the effect of luetin, as applied in the Noguchi test: the reaction is almost always positive, frequently strongly so, so that the injection of the dead spirochætes may be followed by the formation of a pustule which breaks down and leaves an induration which may last some weeks. This does not mark a condition of immunity or of hyperimmunity as McIntosh and Fildes have recently suggested, nor, I think, does it indicate a great degree of hypersensitiveness. I look upon the condition as marking a gradual return to normal, a condition which it may reach if the disease dies out and all the spirochætes disappear.

Consider for a moment the nature of the histological changes which occur during an attack of syphilis. The first, the chancre, consists mainly of granulation tissue: there are cell proliferation and lymphocytic invasion, but there is but little of the dilatation of vessels and of the changes which are characteristic of acute inflammation. This is the reaction of the tissues when they are but slightly sensitive. But the nature of the earliest secondary lesions is quite different; here the changes, vascular and otherwise, of acute inflammation predominate, infiltration being entirely absent or but slightly marked, and these appearances I regard as indicating the reaction of the highly sensitive tissues. If we now trace the alteration of the lesions from this stage forward we find that we can construct a series—the papular syphilide, the follicular syphilide, rupia, and gumma—in which the acute inflammatory element gradually diminishes and granuloma formation becomes more and more marked, and the lesions which are formed come to resemble in their essential characteristic the chancre.

I must at this point remark that the fact that a syphilitic patient cannot be reinoculated with the disease does not indicate that he is, in the ordinary sense of the word, immune thereto. The fact is that (according to Finger, Wolff-Eisner, and others) he can be reinoculated, but that the resulting lesion matures rapidly into a small papule and the disease goes no further. This is, of course, due to the hypersensitiveness of the tissues; the defensive substances are more readily mobilised in a syphilitic patient than in a normal person, the period of incubation is shorter, antibodies or other defensive substances are soon on the spot in sufficient numbers to abort the further development of the spirochætes, and nothing but a small papule results. When the disease is completely cured it is completely reinoculable, the tissues having regained their former degree of sensitiveness; and I regard the tertiary stage as being an approach to this condition.

But I think there is another possibility which has to be considered, and that is that all this time the spirochæte is gradually altering in response to its changed environment, as we know may occur in better known bacterial infections. I have not time to go into this question at present, but it is one that must not be lost sight of as possibly playing a very important part in the pathology of the disease. I shall refer to it briefly subsequently.

evidence in favour of the supposition by a consideration of the observed fact that an alternation of mercury and salvarsan is more efficacious than either remedy alone. A spirochæte may gradually acquire tolerance to either drug when submitted to its action for long periods of time, but when exposed for a short time to arsenic and then to mercury it is quite in accordance with general biological facts that it should acquire tolerance for neither. And I believe late cases of syphilis are best treated in this way, with perhaps occasional periods of iodides.

Parasyphilitic Infections.

Now as to the alleged incurability of the parasyphilitic affections. I think here the issue has been confused by the fact that the patient who has had some of the important portions of his nervous system destroyed will not be clinically cured after the syphilis has been entirely eradicated; unless other portions of the nervous system can take up the functions of the destroyed parts he will be little better off than before, with this difference, that the disease will not progress. And that such a result can be accomplished with mercury alone, as Hayes has shown, I sincerely believe. But the question has entered on a new phase by the introduction of salvarsan and by the newer method of giving it introduced by Swift and Ellis. Even with the old method many cases can be brought to a standstill after a few injections, and in a few cure in the sense in which I have used the term has been obtained.

The new method of giving salvarsan in these cases is very interesting. Its theory is founded on the fact that the cerebro-spinal fluid acts as the lymph for the cerebro-spinal system, and that it forms a system of its own devoid of any direct connexion with the blood or lymphatic systems generally. Thus but few drugs which are injected into the blood or taken by the mouth are excreted by the choroid plexuses into the cerebro-spinal fluid and thus brought into contact with the nerve elements themselves. To remedy this Swift has proposed to inject the curative material directly into the cerebro-spinal fluid by lumbar puncture. The curative material in question consists, in his opinion, of antibodies which circulate in the blood after an injection of salvarsan. He gives an injection of that drug or of neosalvarsan, waits for an hour (after which time, he thinks, there is a large amount of antibody in the blood), bleeds the patient, allows the blood to clot, collects the serum, and injects it, after heating it to 60° C. to destroy the complement and diluting it with normal saline solution, into the spinal canal. I believe as a matter of fact that the theory is not a correct one, and that the serum owes its activity to the presence of minute traces of salvarsan. It seems quite impossible for large amounts of antibodies to be developed in so short a space of time.

In any case the results are very striking. I have already applied this method in three cases, one of general paralysis and two of tabes, with very excellent results. The paralytic patient's mental condition has improved in a very striking manner after a single injection, and his physical condition is also much better. The cases of tabes have also improved in a very gratifying manner, especially in regard to the practical complete loss of the lightning pains. In one case (a patient of Dr. H. W. A. Cowan) the light reflex, which had been absent for some has completely returned; in the other the light reflex is now normal, but there is some difference of opinion as to its absence previously, though, according to Sir David Ferrier and the house physician at King's College Hospital, this was actually the case. In all these cases there has been a diminution in the number of lymphocytes and the amount of globulin in the cerebro-spinal fluid. I do not for a moment claim that these patients are cured, but certainly the results are most encouraging. I think we must modify very considerably the statement that the parasyphilides are incurable. Allowing for the fact that they are examples of these late cases of syphilis in which the spirochætes are probably arsenic- and mercury-fast, and that they occur in a region which is not easily reached by drugs, I do not think they are less curable than we have any right to expect.

THE PROOF OF CURE.

Lastly, as to the proof of cure. The one and only certain proof of this happy consummation is the possibility of reinfecting the patient; this shows that his tissues have returned to their normal degree of sensitiveness, which cannot happen if there are spirochætes still in the body. This test is, of course, impracticable, and we must look about for something else. Whether the luetin reaction will help us in the future is as yet unknown, and at the present time we have to fall back on the Wassermann reaction. Under what circumstances does a negative reaction indicate cure?

To begin with, it is quite useless to draw any inference from its absence unless we know that it has been present comparatively recently. If we do not remember this we may find that we are dealing with one of the cases in which it has spontaneously disappeared in the tertiary stages, as I have already described, whilst the disease is still active. Then we must remember the effect of treatment; mercury and salvarsan will remove the reaction without necessarily curing the disease, the negative phase (if I may use the expression) lasting for so long a time as a year. Taking these facts into consideration, I think we may deduce this as a working rule: if in a patient whom we know to have had a Wassermann reaction we find it remains absent for a year after the cessation of treatment, we may assume with a high degree of probability that he is completely and radically cured, and I think we shall very seldom be mistaken. If we want a higher degree of certainty still, we may give an injection of salvarsan and see if the reaction reappears, and if it does not do so I believe the chain of evidence is complete.

Donations and Bequests.—By the will of the late Mr. John Hogg, of Belfast, the testator among other bequests left £5000 to the Royal Victoria Hospital, Belfast, £2000 to the Forster Green Hospital, Belfast, and £1000 each to the Ulster Hospital for Women and Children, the Hospital for Sick Children, Belfast, the Samaritan Hospital, Belfast, the Ulster Eye, Ear, and Throat Hospital, the Society for Providing Nurses for the Sick Poor, and the Ulster Institution for the Deaf, Dumb, and Blind.—The late Miss Amanda Hinchliffe, of Southport, has left by will £4000 to the Royal Halifax Infirmary, £1000 to the Bath Hospital at Harrogate and £500 to the North of England Children's Sanatorium.—The governors of the Hampstead and North-West London Hospital have received a donation of £1000 from Mr. H Gosschalk to name a bed in memory of his wife.—The *Referee* Children's Fund has sent £1000 to the Queen's Hospital for Children, Hackney, for its seaside branch at Bexhill.

DOSAGE:

SOME SUGGESTED AMENDMENTS IN THE MANNER OF STATING THE DOSES OF MEDICINES IN THE BRITISH PHARMACOPŒIA.

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THE presentation in the British Pharmacopœia of official doses of all medicines used for internal administration has one practical advantage—it forms for the public an additional safeguard against possible error. In the absence of such doses the dispenser has no authorised avenue through which he may approach the physician to seek the confirmation or correction of a dose which *primâ facie* ppears to be excessive. As safety in the framing nd *dispensing of prescriptions is of large public* nterest, it is not unreasonable that the national harmacopœia should provide machinery by which n accidental error on the part of the prescriber ay be checked and remedied. This is the one aluable function which the pharmacopœial doses ischarge. They put the dispenser in a position to ecure the correction of an excessive or dangerous ose due to a miscalculation or slip of the pen ommitted *accidentally by the* prescriber. In this ay they promote the safety of the public, and ence are capable of defence on the broad ground f the general interest.

There is, however, something to be said on the ther side. The creation of an official dosage is ot an unmixed boon. On the contrary, it involves ertain disadvantages and dangers; and the claim ere to be submitted is that it is the duty of the harmacopœia to provide safeguards against the isks which its official scheme of doses calls into xistence.

The Mischiefs of Pharmacopœial Doses.

The chief count in the indictment which may be rged against the existence of pharmacopœial doses is that they tend to hinder liberty of prescribing. Appearing in a volume enjoying a definite legal status, they acquire, almost inevitably, a certain official halo and sanction. So dignified, they are carried from the Pharmacopœia into the text-books of materia medica and therapeutics; and they form the general standards of examiners. Hence the medical student becomes accustomed to regard such doses as authoritative; and even the prescriber, influenced by his early habits, remains in greater or less measure sensible of their restraining influence and feels more or less acutely the advisability of keeping his prescriptions within the limits of the official figures. But efficient and successful prescribing is not cultivated by adherence to a system of rigid rules; it demands, rather, the djustment of doses of selected remedies to the eeds, peculiarities, and idiosyncrasies of the individual patient. Dangers no doubt attend excess, ut equally they attend defect. Against the one here are constant warnings, but the mischiefs of the imid and officially restricted prescriber are rarely ecited. These mischiefs, it is here contended, the xistence of a scheme of official doses tends to xcite and maintain. *It is therefore a fair claim* hat the promoters of such a scheme should take teps to avoid the harm of which it is capable. In hort, the doses of the Pharmacopœia ought to be resented in *such a fashion as to indicate clearly* that, while useful as an opportunity for discussion between dispenser and prescriber, they have no jurisdiction over the judgment and freedom of the physician.

That this is the true aim and purpose of the pharmacopœial doses there can be no question. In the preface to the official volume it is plainly stated that these doses "are not authoritatively enjoined," and that "the medical practitioner must act on his own responsibility as to the doses of any therapeutic agents which he may administer." But, buried in a preface, these statements are rarely revived as active and urgent doctrines. They seldom, if ever, penetrate into the manuals of materia medica and therapeutics, and probably many students pass through the curriculum without hearing of their existence. It is therefore no exaggeration to say that the intention of the Pharmacopœia in this respect is not achieved. The concealed wisdom of the preface rests undiscovered, while the impressive examples apparently afforded by the text carry a full influence. Accept this contention, and it follows, that if the true meaning of the pharmacopœial doses is to be widely appreciated, and if their unwholesome restraining influence on practice is to be avoided, something *more than the general propositions of the preface* is necessary. The limitations and qualifications there announced must be carried into the text of the volume, and this in such a fashion that in each individual instance there shall be a clear intimation that the "dose," as stated, is "not authoritatively enjoined," and that the official figures neither limit the judgment of the practitioner nor diminish his responsibility.

"*Pharmaceutical Dose.*"

The harm of the present position arises from the use, without qualification, of the word "dose." It is because they are presented in a fashion so *absolute, that the official figures* have *acquired* an authoritative quality to which they have no real title. The suggestion I now offer is that these figures should be deprived of their artificial prestige by the introduction of the limiting term "pharmaceutical"—that, in short, the "doses" of the Pharmacopœia should be printed and quoted as "pharmaceutical doses." Such a phrase would furnish an occasion to the teacher to explain to his pupils its meaning and necessity, and would be a permanent proclamation that neither the Pharmacopœia nor the General Medical Council cultivates the desire *either to give lessons in therapeutics* or to direct or control the judgment of the *prescriber*. Further, the term "pharmaceutical dose" can be defended as strictly accurate, for the doses announced in the Pharmacopœia are those which, appearing in a prescription, pharmacists may safely dispense without seeking the special and personal warrant of the physician—they are authoritative doses for members of the pharmaceutical craft or calling. "Pharmaceutical dose" is therefore both correct and appropriate; it indicates the real significance of the official figures, and also prevents them from being regarded as therapeutic lessons. Hence its adoption, without qualifying in any degree such advantages as the existence of a scheme of pharmacopœial doses ensures, would announce openly the freedom of the physician to act on his own judgment.

To take a single example. The dose of tincture of digitalis according to the [illegible] is 5 to 15 minims, and this, in the [illegible] preface, represents "the average range, in ordinary cases." With such a description there is no need to quarrel, but it would be absurd to suggest that the figures as quoted limit the amount of tincture of digitalis which the physician may prescribe. What is wanted is the plain and unambiguous proclamation in the pages of the Pharmacopœia that the pharmacopœial doses have no such limiting effect; and the adoption of the phrase "pharmaceutical dose" would, I suggest, secure this end.

If the necessity for a qualifying term is once allowed, there seems to be none so satisfactory as the one here proposed. "Official dose" would rather aggravate than help the present position, as it suggests authority and command; and "pharmacopœial dose" would have much the same note. Even "average dose" might propose the doubt whether what is formally defined as "average" could be safely exceeded—at least, in any considerable degree. "Pharmaceutical dose" both gets rid of all suggested pressure of official orthodoxy and authority and announces in accurate terms the modest function which it is the purpose of doses named in the national Pharmacopœia to satisfy. It preserves the public advantage, and lessens, or even avoids, the dangers carried by the existing practice.

The Metric System.

A second suggestion which I venture to advance is that the doses stated in the Pharmacopœia be stated in terms of the metric system. The advantages of this system are generally allowed, if not in commercial operations, at least in scientific weighings and measurings, where prescribing and dispensing may fairly be placed. Yet in these activities the metric notation makes little or no advance. Everyone applauds the method, but no one adopts the practice. In spite of the benedictions of congresses and editors, custom and habit maintain their supremacy and the revolution "evaporates in complimentary harangues."

The reason for this stagnation is not far to seek. It is found in the last resort in the practice of presenting the doses in the Pharmacopœia in terms of the imperial notation, and in this notation only. Almost inevitably, therefore, the doses of medicines appear in this guise in lectures and text-books, and are so acquired by students of medicine. Thus, the student necessarily learns to think and speak of doses in terms of the ordinary weights and measures. What he learns as a student he continues as a prescriber, and the dispenser, willingly or unwillingly, follows suit. The sequence is complete. The Pharmacopœia determines the speech of the teacher, text-book, and examiner; these in turn control the student; the prescriber is but the student writ large; and the prescription fixes the habit of the pharmacist. All find the ultimate reason, or excuse, for their adhesion to the imperial notation in the example and custom of the Pharmacopœia.

If, however, the pharmacopœial doses were written in metric terms the entire position would be changed. In lectures and text-books doses expressed in these terms would certainly appear. The student would therefore learn to think of doses in decimal quantities, and teachers and examiners, though doubtless with difficulty and reluctance, would be driven to the same habit. Accustomed in the days of his youth to think in metric terms, the prescriber, when his opportunity comes, will certainly write his pre-[illegible]ions in this language; and the dispenser [illegible] follow, without choice. In short, the key of the position for those who wish to see the adoption of the metric system in prescribing and dispensing, is the scheme of doses printed in the Pharmacopœia. Until this is captured the demands of preliminary examinations, and the invention of ingenious devices for the ready translation of ordinary weights and measures into metric equivalents, will be exercised in vain. In spite of these methods of pressure and persuasion the prescriber will continue to write in the terms in which he has been trained to think, and he will be trained to think in the imperial notation so long as this is the language of the doses of the Pharmacopœia. It is only by a change in this language that the adoption of the metric system in medicine and pharmacy can be attained; and it is to this essential point that the advocates of the metric system should address themselves.

Use of Metric System in Previous Editions.

Some amount of encouragement in the desired direction can be found in the history of the Pharmacopœia. In the preface to the issue of 1867 the General Medical Council recognised "the advantages that would result from the adoption of one uniform system of weights and measures," but felt unable to employ, "even as an alternative," a system which "as yet is to a great extent unknown in this country"; they did, however, sanction the metric terms to this extent, that authorised test solutions to be used for volumetric estimations were printed both in British weights and measures and in terms of the metric notation. In the 1885 edition no reference was made to the question of weights and measures, but as the preface to the 1867 edition was reprinted in the 1885 issue, the Council presumably agreed generally with the position there defined. In 1898 the alternative employment of metric weights and measures was extended to the main text of the Pharmacopœia, so that since this date it has been permissible to conduct all operations of weighing and measuring required in the manufacture of the official preparations, either in metric weights and measures, or in the weights and measures of the imperial notation. At the same time the alternative in reference to processes of gravimetric and volumetric analysis was abolished, and here the metric system alone appeared. The movement, in short, has been to offer alternative systems, first in the strictly analytical sections of the Pharmacopœia, and next in the manufacturing and pharmaceutical sections, and from this to advance, as in the case of the analytical section, to the metric system standing alone. The doses, however, have remained in terms of the imperial notation only. It would seem to be in harmony with the previous record that these should now be offered in metric terms; and this is the suggestion I here venture to propose.

Doses both in Metric Terms and Imperial Notation.

It is, however, only reasonable to allow that, at first, the metric terms may have to be offered merely as an alternative to the doses as at present stated. This would both follow precedent and would avoid the risk of detaching the Pharmacopœia from the habits and customs of the constituency with which it is concerned. After all, it has to be remembered that the Pharmacopœia is an instrument of education in an indirect sense only. In order that it may serve the public interest it must keep in touch with the existing state of medical practice. An abrupt presentation of the pharmacopœial doses in metric terms only would certainly mean a separation between the language of the

Pharmacopœia and that of the general body of prescribers; and such a separation would be out of harmony with the main purpose of the Pharmacopœia. But to offer the doses in terms both of the metric system and of the imperial notation, especially if the former were given the first rank, would give the decimal plan an opportunity with the prescribers of the future, without creating any division between the Pharmacopœia and the practitioners of the present day. No doubt, even if such a change is made, movement will be slow. But almost certainly there will be some movement, whereas, under existing conditions, the metric system in practical medicine and pharmacy gains many compliments, but makes no progress. It is in vain that advocates of this system address themselves to prescribers whose habits of thought and expression are already fixed; these are beyond hope and must be left in their sins. With the future generation there is some chance. But the Pharmacopœia must lead the way, and, in the fashion here proposed, it can do this without any sacrifice of the object and purpose for which, under the authority of the Legislature, it has been called into existence.

Harley street, W.

THE BISMUTH URETERAL CATHETER, COLLARGOL SOLUTION, AND BARIUM SULPHATE SUSPENSION IN THE DIAGNOSIS OF SOME URINARY DISEASES.

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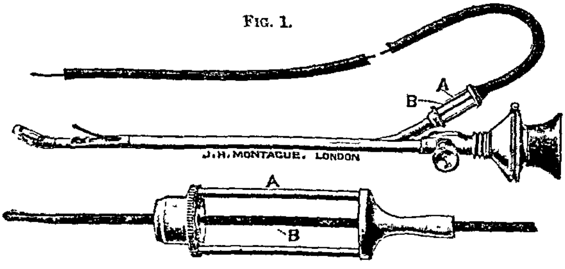
(*With Illustrative Plate.*)

Catheterisation of the Ureters.

As it is not possible to arrange to have the help of the same assistant every time I catheterise a ureter, I rely entirely upon myself for the performance of this operation. During an experience of six and a half years not a single patient has been infected, and this I attribute (1) to using strong antiseptics for my hands and (2) to the constant use of my aseptic ureteral catheter sheath which I introduced in 1907.

FIG. 1.



Author's aseptic ureteral catheterisation sheath

Aseptic ureteral catheterisation sheath.—This sheath (Fig. 1) reduces to a minimum the danger of carrying sepsis to the high urinary tract, and it comprises two detachable portions—namely, metal and rubber. The metal one consists of a perforated screw-cap and a conical-shaped portion (with broad base and funnelled apex); these another by two thin side rods m diagram. The screw-cap is a replica o the upper end of the compartment for tra the ureteral catheter of the Nitze catheter cystoscope. A piece of rubber tubing, 22 inc long and with a bore of one-eighth of an inch, completes the apparatus. The rubber tubing is made to slip over the bulbous bell-mouthed apex of the "cone," and the whole is screwed on to the cystoscope. The ureteral catheter having been introduced into the rubber tubing the catheter is pushed onwards. Owing to the funnel-shaped apex of the metal portion the catheter B readily enters the lumen of the "cone," reappears between the two metal connecting rods, and negotiates the orifice leading into the ureteral compartment of the cystoscope. When the *vis a tergo* has introduced the catheter as far as possible, grasp it between the thumb and index finger of the right hand and push onwards as required. The advantages of this sheath are obvious. It is simplicity itself. The present real dangers from sepsis owing to the catheter touching the operator's face, hair, and being breathed upon are avoided. It is easily sterilised, for both rubber and metal portions will boil. Excepting for the end remote from the tip there is no need to handle the ureteric catheter until it is well inside the cystoscope. The rubber tubing can lie anywhere, over the cystoscopist's shoulder, in between the patient's legs, &c. Without this addition there is a great liability for the catheter to double up at the point of handling when it is being pushed onwards; the opposing thumb and index finger slide up and down the side rods and give the necessary support. It is necessary to use a lubricant for the rubber tubing in order to make the catheter travel more easily; a suitable one is glycerine, and it may be introduced by a sterilised pipette. This sheath can be fitted to any cystoscope.

I usually wear rubber gloves during the operation. Just before the introduction of the cystoscope a sterilised cotton glove is put on to the right hand over the rubber glove, as this cannot grasp the slippery lubricated ureteral catheter.

Technique.—I always have the patient in the full supine position on a reasonably firm bed or couch. During the early part of my career I failed in one or two cases to get a catheter into the ureter entirely because the patient was lost in the depths of a feather bed! If possible a general anæsthetic is never employed. Anæsthesia undoubtedly interferes with the renal function, which interference renders it difficult to get an accurate record of the amount of work each kidney is capable of performing. Moreover, I have a wholesome dread of injecting, either by a syringe or by gravity, any fluid into the renal pelvis of a patient who is unconscious through anæsthesia.

To avoid inserting a catheter into the wrong ureter.—Experience has taught me that to insert a catheter into the wrong ureter is a matter of great ease, especially if the patient is restive during the catheterisation. I have made this mistake more than once, and Fig. 2 shows an X ray photograph, with abnormal shadows in the pelvis, where a bismuth bougie *is in the wrong ureter.* To avoid a recurrence of this mistake I now always put a blue pencil cross on the skin over Poupart's ligament of the side I wish to catheterise. This "cross" is constantly catching the operator's eye during the catheterisation and eliminates the source of error mentioned.

Mapping Out the Line of the Ureter.

To be able to map out the line of the ureter is of great use in the interpretation of any abnormal shadow in the situation of the renal pelvis, or line of the ureter. These abnormal shadows include a calculus *in* the pelvis of the kidney or the lumen of the ureter, also phleboliths, calcareous glands, and seminal vesical concretions (in the case of the male).

Methods of demonstrating the ureter.—These are (1) a silver stylet in the lumen of an ordinary ureter catheter; (2) a catheter, or bougie, impregnated with bismuth; and (3) collargol solution. Neither (1) nor (2) have proved to be quite satisfactory. Excepting in thin patients my results with the wire have not been very successful. The bismuth bougie and the catheter are both most unsatisfactory, for they are expensive, unreliable, and the deterioration is rapid; even if one capable of giving a good shadow is obtained, these bougies have a short, even if a useful, life. The last-mentioned method is, I think, the most certain way. The lumen of an ordinary ureter catheter is filled with a column of collargol solution, or the radiogram is taken while the collargol is trickling down the ureter from the renal pelvis. I understand that this method has now entirely replaced the use of the silver wire in the Mayo clinic.

Calculus in the renal pelvis.—Fig. 3 shows a bismuth bougie lying in the right ureter, and actually touching a large calculus in the pelvis of the right kidney. The patient was a young woman who seven years previously had had the appendix removed for persistent right iliac fossa pain; the operation of appendicectomy gave no relief. The calculus was subsequently removed by Professor Rutherford Morison, and the patient did well.

Calculus in the ureter.—Fig. 4 shows a bismuth bougie touching a stone. In such a case as this, with a stone lying in the lower end of the ureter, it is important not to move the cystoscope until the radiogram has been secured, otherwise there is a great danger of the catheter being withdrawn to a slight degree, and it will then fail to touch the stone. In this case the stone had been lodged in the same situation for some weeks previously. Dilatation of the ureteric orifice was sufficient to enable the stone, which was a spiculated one, to pass, and the patient voided it per urethram.

Shadows outside the ureter.—Fig. 5 demonstrates shadows in the pelvis, which by means of the bismuth bougie were proved to be away from the line of the ureter. The patient had previously passed renal calculi, which he showed to his medical attendant, and after a radiogram had been secured showing shadows in the pelvis he was sent to have these removed by operation. Fortunately for the patient, the bismuth bougie showed that the abnormal shadows were not calculi, and he was spared a useless operation.

To illustrate the necessity of sometimes mapping out not only the line of the ureter but also the renal pelvis.—Fig. 6 illustrates the necessity of not only using a bismuth bougie, but of employing collargol. This patient complained of right-sided renal colic, and X rays on two separate occasions showed a shadow in the same situation. A bismuth bougie was inserted as far as the renal pelvis, showing that the shadows were external to the line of the ureter. These shadows were then interpreted to be in the lower pole of the kidney. Had pyelography been resorted to in this case I feel quite sure that I would have been able to have shown that these shadows were away from the kidney altogether; that they were not renal calculi was subsequently proved by operation.

Pyelography.

Voelcher, of Heidelberg, ingeniously conceived the idea of mapping out the renal pelvis with collargol solution in order to gain information as to its size, shape, and position. This was enthusiastically taken up by Braasch, who recently recorded having successfully done over 1000 cases by this method.

Strength of collargol solution used.—With regard to the degree of dilution of the collargol, I have used solutions varying from 3 to 20 per cent., but 10 per cent. is the strength usually employed. The strength of the solution largely depends (1) upon the stoutness of the patient; (2) upon the degree of a hydronephrosis (if such be present), which it is impossible, as a rule, to empty completely through the ureter catheter, and which results in a further dilution of the collargol solution; and (3) if an abnormal shadow has been seen in the situation of the renal pelvis a weak solution must be employed, for should a stone be lying in the pelvis or a calyx and too strong a solution used, the probability is that the calculus shadow will be obliterated by the collargol shadow.

Effects of collargol.—Various dangers in the injection of collargol have been mentioned. In addition to sepsis Oehlbecker reports a case where there were areas of necrosis, infarction, and cast formation after the renal pelvis had been distended under high pressure. Zacharisson found casts one year after injecting the healthy kidney; Jewell reports embolic gangrene; while Eckehorn records a case of œdema of the kidney. In order to ascertain the truth of these statements Strassmann experimented on live rabbits, and came to the conclusion that the injection of collargol in proper amounts and under moderate and careful pressure into the renal pelvis does not produce harmful results and in no way brings about noteworthy changes in the pelvis of the kidney.

I have now injected collargol in a large number of cases without any ill after-effect. Braasch also reports over 1000 cases without any harmful result. I have had one case where a considerable quantity of collargol lay in a hydronephrotic kidney for a fortnight without doing any harm whatever, the condition being found at operation. If I

DESCRIPTIONS OF ILLUSTRATIVE PLATE.

FIG. 2.—Showing abnormal shadows in pelvis, with bougie in wrong ureter.

FIG. 3.—Showing bismuth bougie in right ureter, touching calculus in right renal pelvis.

FIG. 4.—Showing bougie touching a stone, with cystoscope in position.

FIG. 5.—Showing shadows in pelvis proved by bougie to be away from ureter.

FIG. 6.—Showing shadows external to line of ureter.

FIG. 7.—Showing large hydronephrosis.

FIGS. 8 AND 9.—Showing shadows following injection of collargol.

FIG. 10.—Showing hydronephrosis. Note that shadow of pelvis is separate from that of catheter in ureter.

FIG. 11.—Radiograms of different solutions.

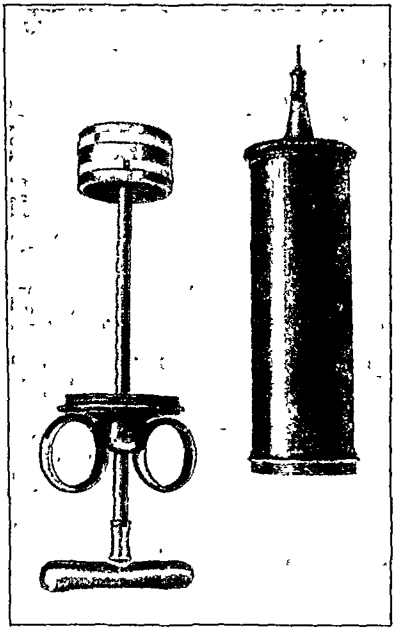
1. $BaSO_4$ = 10 + 1 ... ...
2. ,, = 10 + 2 ... ...
3. ,, = 10 + 4 ... ...
4. ,, = 10 + 5 ... ...
5. Collargol = 10% ... ...

i.e., 10 parts of ol. amygd. d. + 1 part of $BaSO_4$

FIG. 12.—Showing bladder distended with barium sulphate solution in oil.

Make a collargol injection for diagnostic purposes the renal pelvis is emptied through the ureter catheter before the latter is withdrawn. If, however, the collargol is injected for purposes of medication, then it is not withdrawn, but left to find its own way out. I feel satisfied, therefore, that where harm has been done it has been due to over-distension of the renal pelvis, amounting, perhaps, to even rupture, and in all these cases the patient was probably under a general anæsthetic.

FIG 13.



Syringe and piston

Technique of injection without a general anæsthetic.—After getting the ureter catheter *in situ* the kidney area is palpated to empty a hydronephrosis, if such be present, and in any case I collect sufficient urine to make a complete examination before proceeding to inject the collargol. In this way the catheterisation serves two separate useful purposes: (1) the renal function is estimated; and (2) the degree of any hydronephrosis is ascertained. The collargol is then injected with a syringe if the patient has not had an anæsthetic, or by means of gravity if an anæsthetic has been employed.

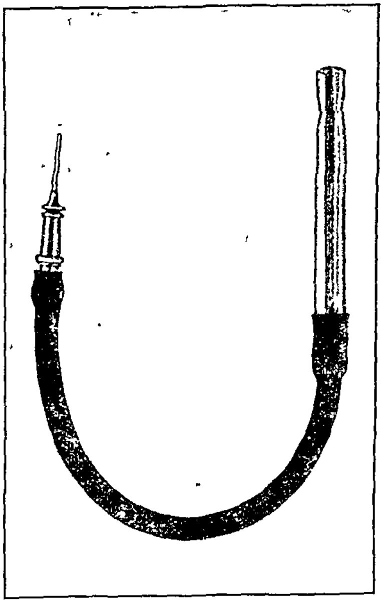
To obtain a syringe which is satisfactory for the purpose of injection has been a matter of no small difficulty, owing to leakage past the piston. It is necessary to have a syringe of about four ounces capacity and one easily sterilised. The piston must work easily; although if it is too free then the solution leaks past the piston and the actual amount injected into the renal pelvis is unknown. The piston of the syringe I now use has two rings on it, and these prevent any leakage past of the collargol solution. (Fig. 13.) The lumen of the barrel should be lubricated with sterile vaseline before sterilisation of the syringe in order to facilitate its working. The metal rod connecting the piston to the handle is marked off in 5 centimetres in order that the amount of solution injected can be easily ascertained.

It is absolutely essential to make the injection slowly. As the lumen of the ureteric catheter is very small the nozzle of the syringe must also be of small calibre. The funnel of a ureter catheter is of little use to me, as I usually withdraw the cystoscope and leave the catheter *in situ*, and of course the large funnel cannot travel along the small compartment of the cystoscope.

If it is desired accurately to determine the degree of hydronephrosis the ureteric orifice must be watched by means of the cystoscope during the injection of the collargol. Immediately the black-coloured fluid runs into the bladder alongside the catheter the operator knows that the limit of distension of that renal pelvis has been reached.

Technique of injection with a general anæsthetic.—For injecting collargol where the patient is under an anæsthetic I ascertain if possible the size of the renal pelvis by bimanually compressing the same, and carefully measure any urine secured. It is only safe to allow a similar amount of collargol to run into the renal pelvis, and even then I use an irrigator attached to the small nozzle by flexible rubber tubing, this nozzle being of smaller size than that of the syringe. (Fig. 14) The collargol solution is allowed to run in by gravity.

FIG 14.



Irrigator and nozzle.

I attach great importance to the distension of the renal pelvis *without* a general anæsthetic, for the patient can promptly indicate when sufficient has

0·5 or in 1 per cent. iron-alum instead of a 2½ per cent. solution, as the feebler solutions decolorise more uniformly and thereby prevent a too rapid decolorisation of the nuclei containing only slight amounts of nucleo-protein. While decolorising the slides should be constantly moved. In studying gland cells Ehrlich's triacid stain gave good results; for determining basicity 0·5 per cent. toluidin blue is good, and if no differentiation with alcohol is contemplated I use a 1:1000 toluidin blue and examine with a Zeiss D* lens. For general all-round staining I have found my long methyl-blue-eosin method to give the best results, as this method allows us not only to study cytoplasmic changes in individual cells, but also permits of a thorough investigation of alterations in nerve fibres, in the matrix of hyaline cartilage and of the cornea, and in the white matter of the cord and the brain and the peripheral nerves.

In my investigation special attention was paid to the epithelium of the conjunctiva, the cornea proper, the retina, the cartilaginous capsule of the eye; the brachial nerve with its spinal and sympathetic ganglia[2]; the cerebrum, thalamus, midbrain, medulla, and upper part of the cord; the alimentary canal from the œsophagus to the anus; and the thyroid gland, the liver, and the pancreas. The kidneys and the suprarenals were not studied by me, as these organs are being specially investigated in my laboratory by Dr. H. W. E. Walther from the secretory point of view.

Generally speaking, the somatic cells of all higher animals may be divided into two classes, the first of which includes all gland cells and nerve cells, while the second class is represented by the protective coverings and the organs of locomotion—namely, muscles, tendons, and bones. The blood occupies a position somewhat intermediate. My reason for this classification is as follows. In the introductory remarks it was pointed out that in each cell there is an "indispensable" moiety of protein. This latter includes all secretions formed by gland cells and by nerve cells; thus, if the stomach or pancreas cells once have formed zymogen granules, then these granules cannot be made use of for the general maintenance of the animal, and nothing but a specific stimulus will set the secretions free. However much the cytoplasm between the zymogen granules is reduced, the zymogen itself undergoes no apparent diminution in starvation. Similarly, in nerve cells, when the Nissl substance has been once formed, and it is quite immaterial whether the latter remains in the nucleus, as in the nuclei of the rods in the retina, or is excreted into the body of the cell, as in all other mammalian nerve cells—nothing will call forth a diminution of the Nissl substance except functional activity, for I have found months of starvation in the frog and three weeks' starvation in the rabbit to leave the Nissl substance undiminished if care be taken to let neither light, sound, odours, temperature, or touch influence the animal experimented on. From the teleological point of view, which is the same as that of common sense, if glandular secretions, or if Nissl's substance, were used up for purposes of general economy, then on food being administered to a starving animal the food could not be digested, nor would the nerve cells be able to bring about movements of muscle fibres or of gland cells.

On the one hand, we find therefore a conservation of potential energy in the starving cells; on the other hand, a constant loss of energy by the liberation of albuminous compounds owing to a continual secretion of the one or more digesting enzymes.

This explanation will account for the rapid diminution in the amount of "available" protein which takes place as soon as food is withheld. We know of both ereptic and tryptic enzymes being widely distributed over the body, and it must be these or analogous enzymes which bring about the liberation of amino-acids, making it thereby possible for one organ to nourish other organs—for example, ordinary skeletal muscle to nourish the heart &c.[3] The loss of protein brought about by auto-digestion must be made good, and therefore it is necessary to save the "available" protein as much as possible by the administration of readily digestible albuminous food, such as caseinogen, in sufficiently large quantities to avoid an undue diminution of the "available" protein. The average amount of protein should be 1 gramme for every kilogramme of body weight per day, and in cases of nervous debility this amount should be doubled. The fact that after the administration of milk proteins there is produced within at the most two hours a demonstrable increase in the density of the cytoplasm of the most diverse cells shows, however, that in addition to the disruptive or digesting cell enzymes there must be at work constructive or "coagulating" enzymes; and it shows, further, that the maintenance of the cell is dependent on the balance between the disruptive and the constructive enzymes.

After the administration of the sanatogen, in addition to the changes in the cell bodies just alluded to, the next most striking change is the increase in the affinity for basic dyes shown by the cell nuclei. This increase is partly due to an actual increase in the size and the number of the chromatic elements, consisting of nucleo-protein, and partly due to the nuclear sap or nucleoplasm—forming the greater bulk of the nucleus—developing a greater affinity for basic dyes, which means becoming more acid itself.

The two facts just mentioned are brought out by the illustrations (Figs. 1 to 7), which are partly exact representations of cell nuclei, magnified 1000 linear diameters, partly diagrams showing exactly the amount of change in the intensity of staining produced by feeding with sanatogen. Fig. 1 represents nuclei of the cornea seen from before backwards as each eye was cut in the coronal plane; *a* and *b* are taken from the two unfed controls, *c* represents the increase in the nucleo-protein three hours after feeding, *d* five hours after feeding and *e* 89 hours after feeding. Fig. 2, *a*, shows two unfed nuclei from the cartilaginous sclerotic coat, and *b* two fed nuclei three hours after feeding.

Fig. 3 shows the changes in the heart muscle; *a* and *b* represent the isotropous and *c* and *d* the anisotropous substance; *a* and *b* after staining with my long methyl-blue-eosin method, and *c* and *d* after staining with iron-alum-hæmatoxylin; *a* and *c* are the unfed hearts, and *b* and *d* hearts two hours after feeding. Fig. 4, *a* to *f*, shows the nuclei of the heart muscle in different stages of contraction and also in the uncontracted state. It is exceedingly difficult to find corresponding trabeculæ in two different hearts, but as to the change in the nuclei there cannot be any doubt; *a*, *b*, and *c* are from the unfed, and *d*, *e*, and *f* from a frog fed two hours previously. Fig. 5 shows the change produced in the conducting parts of the nervous system, especially in the non-cellular part; *a* is the unfed and *b* the fed condition five hours after feeding. Fig. 6 shows the nuclei of ependyma cells with their long tail-like processes pointing toward the central canal of the spinal cord or towards the ventricles; *a*, *b*, and *c* are unfed; *d* is three hours after feeding, *e* and *f* 12 hours, *g* 24 hours, and *h* 68 hours after feeding. Fig. 7 shows small nerve cells from the midbrain, *a* from the unfed, and *b* from a frog five hours after feeding.

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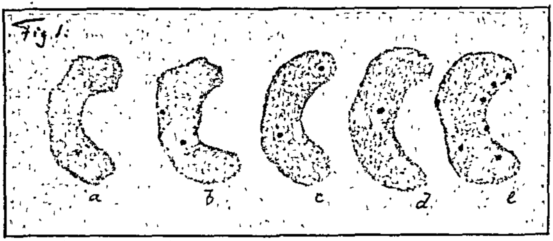
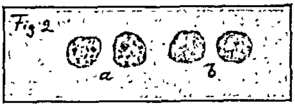
[2] I found constantly a definite sympathetic ganglion on the brachial nerves of the North American frogs.

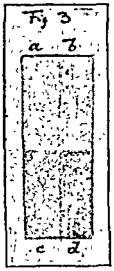
[3] Experiments are under way in my laboratory to determine whether ferments are more abundant during starvation.



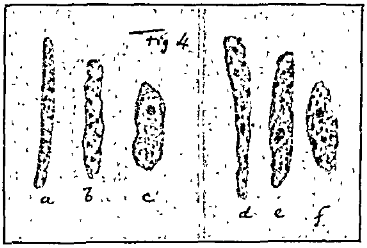
Showing nuclei of the cornea in unfed controls and after feeding.



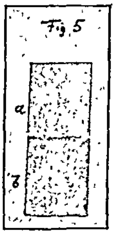
Nuclei from the cartilaginous sclerotic coat.



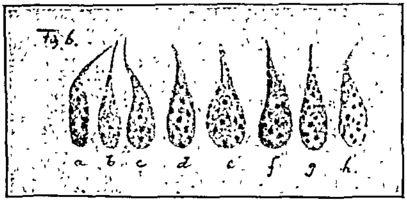
Heart muscle.



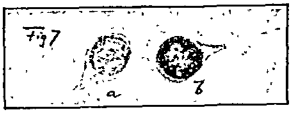
Nuclei of heart muscle.



Conducting part of nervous system.



Nuclei of ependyma cells.



Small nerve cells from the midbrain.

The above illustrations show that after feeding on milk protein—

1. Cells living away from the actual blood stream—for example, the corneal cells (Fig. 1) and cartilage cells (Fig. 2)—will benefit within a very short time after the administration of food, as judged by the increased activity of their nuclei.

2. During prolonged starvation the heart muscle undergoes marked atrophy, which shows itself in both the isotropic and the anisotropic parts of the muscle fibrils losing approximately 25 per cent. of their stain ability when compared to normal non-starved animals (see Fig. 3). It was further seen that two to three hours after feeding on milk protein the muscle fibrils show a marked recuperation, as evidenced by the sarcostyles staining much more deeply, both after iron-alum-hæmatoxylin staining, which stains the anisotropous substance, and after my long methyl-blue-eosin method, which stains both the isotropous and anisotropous substances. In all the fed frogs, within one hour after feeding the nuclei of the heart muscle (Fig. 4) showed a distinct change, the nucleo-protein content was increased, and the nucleoplasm stained much more deeply.

Whether the nuclear activity is antecedent to the increase in the isotropous and anisotropous substances or not I have not been able to determine definitely, and this also holds good for all the other cells in the body, but my general impression is that nuclear activity precedes cell activity.

3. Comparing sections of the nervous system of

starved and of fed animals, stained in exactly the same way, by holding the microscopic slides (especially those stained by my long methyl-blue-eosin method and well differentiated) at arm's length, the sections of the brain, medulla, and spinal cord of the starved animals appeared much paler than did the sections of the fed animals. (Fig. 5.) This difference is much less evident when the sections are stained deeply or when they are compared with one another under the low power of the microscope. In sections stained with toluidin blue, iron-alum-hæmatoxylin, or Ehrlich's acid hæmatein, with a Zeiss C lens, the nuclei of the ependyma cells (Fig. 6), lining the ventricles and the central canal of the spinal cord, were always much more deeply stained in the fed frogs than in the starved ones. The same holds good for the small nerve cells (Fig. 7) in the deeper layers of the anterior and the posterior corpora quadrigemina.[4] Changes in the larger nerve cells were not so unequivocal as to allow me to draw any definite conclusion, and this also holds good for the spinal and the sympathetic ganglia, because functional activity tends to diminish the Nissl granules, while feeding increases nuclear activity and the tendency towards the formation of Nissl's substance.

Marked changes, similar to those in the heart (see Fig. 4), were seen, however, in the brachial nerves, especially in the nuclei of the sheath cells forming the medullary covering to the axis cylinders. Within one hour after feeding the nuclei commenced to swell and to stain more intensely, making it probable that the nuclei of the sheath cells have to do with the nourishment of the axis cylinders, especially as the connective-tissue nuclei of the epi- and the peri-neurium also showed an increased affinity for basic dyes in the fed specimens, but to a much less extent than did the nuclei of the sheath cells.

After iron-alum-hæmatoxylin, and also after my long methyl-blue-eosin method, the brachial nerves of starved animals stained more feebly than did those of fed ones (see Fig. 5); the difference was not very marked, but notwithstanding this quite distinct. The increased depth of staining of the nerves in the fed frogs showed that a building-up process goes on in the nerves after the administration of albuminous foods.

As the questions involved are so important I submitted my slides on the heart and on the nervous system to my colleague, Professor Irving Hardesty, who after a careful examination agreed with my findings. I wish to use this opportunity to thank Professor Hardesty for the courtesy shown me.

General conclusions.—Starvation leads invariably to a rarefaction of the cell body and its processes, as is evidenced by the diminished staining power of the cell plasm of all cells in the body. Thus in all starved animals the contractile elements of the heart, both the isotropous and the anisotropous, undergo an atrophy amounting to 25 per cent. of the normal state.

The nervous system also suffers during starvation to a much greater extent than ordinary measurements by weight would lead one to suppose. This loss, if stimulation of the nervous system is eliminated, is restricted to the conducting paths, as is proved by both the nerve cells (apart from Nissl's substance) and also the nerve fibres staining much less deeply in starved than in fed animals. That Nissl's substance is diminished during functional activity I have proved previously.

Feeding with sodium caseinogenate containing 5 per cent. of sodium glycerophosphate it is possible within two hours to get a definite increase in the nuclear activity even of cells which are not supplied directly by the blood, as, for example, in the cornea and in cartilage. This milk protein further leads to an increased depth of staining of the heart muscle and of nerve fibres, and this deeper staining it is impossible to explain in any other way, except to assume that the amino-acids liberated by the digestion of the caseinogen are actually built up into what I have termed the "available" protein.

From the conservation of protein point of view, as well as from that of restoration, it is absolutely necessary to have a non-purin-containing, easily digestible albumin. From the evolutionary point of view milk protein must be the best, as it took millions of years of elimination to make it into what it is now; and yet, time after time, I have found white of egg given to invalids as if it could make good the loss brought about by starvation. That white of egg by itself is an insufficient food for the nervous system seems to be proved by a fact to which Dr. E. A. Eustis casually drew my attention —namely, that the beri-beri neuritis of birds is not cured by the white of egg, while it is cured if the yelk be given. Caseinogen with its phosphorus content and other radicals is to the mammal what the yelk and the white of egg together are to the fowl. Neither of these foods contains purin, but, being mammals, let us give in fevers and in all cases of debility milk protein in preference to eggs, especially as *erepsin* by itself is capable of digesting caseinogen. Let us further give a minimal amount of the fats of milk, just sufficient to bring the calories up to 3500 or 4000, especially when we are dealing with adults, and thereby hasten absorption of the amino-acids and also the liberation of waste nitrogen by the liver. Milk sugar, because of its slow conversion into its monosaccharides, and therefore steady supply of potential heat, should be left for calorific purposes in combination with caseinogen, and we should endeavour to get the full calorific value of the food, beyond the 800 calories got from the caseinogen in cases of fever and debility, by administering milk sugar in the first instance and other carbohydrates secondarily.

New Orleans.

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[4] The posterior corpora quadrigemina of the frog I discovered about ten years ago.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: LECTURE ARRANGEMENTS.—The following are the subjects of the Hunterian Lectures for 1914. Mr. Hastings Gilford will deliver two lectures, on Feb. 2nd and 4th, on Infantilism; Mr. E. W. Hey Groves, one lecture, on Feb. 6th, on Experimental Production and Treatment of Fractures in Lower Animals; Professor A. Rendle Short, one lecture, on Feb. 9th, on Changes in the Blood in the Causation of Surgical Shock; Mr. H. Beckwith Whitehouse, one lecture, on Feb. 13th, on the Pathology and Causation of Idiopathic Uterine Hæmorrhage; Professor Arthur Keith, six lectures, on Feb. 16th, 18th, 20th, 23rd, 25th, and 27th, on the Evolution, Anatomy, and Diseases of the Anthropoid Apes; Mr. C. Mansell Moullin, one lecture, on March 9th, entitled Further Observations upon the Biology and Classification of Tumours. The Arris and Gale lectures will be delivered as follows: one lecture, on March 2nd, by Dr. David Waterston, on Some Recent Researches in Human Development; and two lectures, on March 4th and 6th, by Dr. F. Wood Jones, on the Morphology of the External Genitals. All the above lectures will be delivered at 5 o'clock P.M. precisely at the College, Lincoln's Inn-fields, W.C.

THE TOLERATION OF ARSENIC BY THE HUMAN SYSTEM.

BY H. G. A. HARDING, A.I.C., F C.S., &c.,
TEACHER OF CHEMISTRY, UNIVERSITY OF SYDNEY AND SYDNEY TECHNICAL COLLEGE; ANALYST UNDER PURE FOOD ACT, 1908, ETC.

THE toleration by the human system of arsenic has been so much discussed during recent years, and such various amounts have been stated, in many cases apparently without the slightest authenticity, that I decided during 1912 to conduct some experiments myself, the results of which could be placed on record with the confidence of being authentic. The experiments are summarised in the following.

It has been very generally accepted that the safe limits in dosage of arsenious oxide, As_2O_3 (white arsenic), lie between 1/60 gr. and 1/15 gr. (*vide* various pharmacopœias). A start was therefore made by taking 1/60 gr. doses thrice daily immediately after food, it being well known among medical men that even small doses of arsenic taken on an empty stomach may upset the system. After taking this quantity in this manner for four days, during which no effect, either beneficial or injurious, was felt, estimations were made of the quantity of the drug passed in the urine. The daily dose totalled 1/20 gr., and analysis of an aliquot part of the urine passed in 24 hours yielded 1/60 gr. per diem, thus showing 3/100 gr. per diem otherwise disposed of.

At this stage the urine was otherwise normal. The dose was now gradually increased to 1/30 gr. thrice daily and then to 1/20 gr. and 1/15 gr. The drug now showed in every lot of urine passed, and careful estimations of the amounts present denoted that a fairly even percentage was eliminated through this channel, the average being 25 per cent. to 30 per cent. of the amount of the drug consumed. The quantity of arsenic was always estimated by retaining the whole of the urine passed in 24 hours and taking of this an aliquot part. At this stage two further distinct experiments were made.

A. Doses of 1/15 gr. were taken on an empty stomach thrice daily. The result was that the system became irritated and a distinct feeling of discomfort was experienced lasting over two hours. Estimations of the amount of arsenic now showed a marked increase, 75 per cent. of the amount consumed appearing in the urine. This was discontinued after two days.

B. A comparatively large jump was made in the amount of arsenic taken, ⅛ gr. being taken as a single administration. This also produced irritability and uncomfortable abdominal pains of a more or less severe character. The effect lasted 4¼ hours and then passed off slowly. The whole of the urine passed during the subsequent 24 hours was collected, and on analysis yielded 1/12 gr. arsenic.

Recourse was now had again to the old dosage of 1/15 gr., and after the system became quite normal again the dose was increased to 1/12 gr., then to 1/10 gr., 1/9 gr., and to ⅛ gr. By thus going gradually to ⅛ gr. it was found that the amount was quite well tolerated without any discomfort or marked changes, and, moreover, the average percentage of the drug appearing in the urine was maintained. At this stage, but *not before*, the urine began to depart from normal. The amount of urea increased, the colour was always a little darker, the potash salts increased, and there were distinct traces of broken-down tissue present. The experiments were pushed further ahead, and the dose, still thrice daily after food, was increased to ¼ gr., ⅓ gr., and ½ gr. The urine became correspondingly more pronounced in the directions set out above, but there was no other change, save that it was found desirable or necessary to keep longer on each new increased dose before passing to the next highest.

Proceeding still onward the doses were increased to ⅔ gr., ¾ gr., ⅚ gr., *1 gr.* At this point it was felt in every way that the limit was being approached. Tissue became more apparent in the urine, though the percentage of arsenic remained at the average observed during the administration of the smaller doses. The potash salts and urea were still further increased. It was found, too, that the drug could only be taken with comfort if dry foodstuffs were consumed at meals—if liquid beverages were partaken of, or if the food was of the sloppy order, the administration of the grain dose of As_2O_3 produced immediate discomfort and burning pains in the abdomen, lasting 40 minutes to 1 hour and acting as a distinct aperient within 3 hours.

The next and highest dose reached was 1⅛ gr., which produced irritability and distinct and lasting discomfort every way it was taken and all precautions notwithstanding. Its aperient properties amounted consistently to almost purging, whilst the urine became more abnormal in the directions already indicated. Before taking this 1⅛ gr. dose I felt well in every way, and had increased 2¼ lb. in weight. I now discontinued the drug altogether, but immediately felt a fulness after meals and suffered general derangement for several days. The thought then struck me to keep on with the drug, but to decrease the amount daily. This I did accordingly, and in one week was able to reach ⅛ gr. only, and in less than another week dispensed with the arsenic altogether without any of the symptoms above mentioned, whilst the urine quickly regained normal again. Arsenic was, however, detected qualitatively in all samples of urine for 11 days after consuming the last dose of arsenic. My bodily weight again went to normal, as did the urine and all other functions. I felt well, and my health was quite normal again in every detail, except in one important particular, which must be recorded. It is this. Before the treatment I had not been in the least susceptible to nasal or any other form of catarrh, and, in fact, my opsonic index to that disease had been particularly high. After the treatment, however, a great change in this direction took place, for my opsonic index was continually low, and I was afflicted with nasal catarrh, or "cold in the head," surprisingly regularly every 21 or 22 days. The regularity of these attacks was so marked that I drew several of my medical friends' attention to it. The following mixture gave me most relief, and the attacks passed off suddenly within about 72 hours: Antipyrin, gr. iii.; sod. salicylas, gr. v.; chlorof., m. i.; tr. quininæ ammon. ad ℥ss. These attacks occurred in all 14 times at intervals of three weeks, and then after a rather worse one than usual ceased altogether, and for five months I have been quite free and normal, and my opsonic index has also gone up. There is no doubt in my mind that the attacks were brought on absolutely by the treatment.

The weighings of As_2O_3 for the doses taken were checked either by Mr. F. J. Shephard, M.P.S., pharmacist, or by Mr. W. J. C. Ross, B.Sc., F.G.S., lecturer in chemistry, to whom my thanks are due.

Sydney.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A SIMPLE AND RAPID METHOD OF ADMINISTERING NEOSALVARSAN.

By Douglas J. Guthrie, M.D. Edin.,

LATE CLINICAL ASSISTANT AT THE ST. LOUIS HOSPITAL, PARIS.

Although neosalvarsan is so extensively employed in the treatment of syphilis, there appears to be no general agreement as to the best mode of administration. In this country it is usually dissolved in a large quantity (200 to 300 c.c.) of saline solution and injected intravenously. A much simpler method is that which was adopted at the St. Louis Hospital, Paris, over a year ago, and has since been in daily use there. It consists in the employment of a concentrated solution of the drug in distilled water. The technical details are as follows. The patient's arm is prepared in the usual manner. 10 c.c. of *cold boiled* distilled water are measured into a sterilised beaker, and the required dose of neosalvarsan, which may range from 30 to 90 centigrammes, is then added. The resultant solution is practically isotonic with the blood and may be safely used for intravenous injection. The only apparatus required is a glass syringe of 10 c.c. capacity. A short piece of glass tubing, containing a plug of sterile gauze, is fitted to the nozzle of the syringe in place of the needle before the solution is aspirated from the beaker. By this simple expedient the solution is filtered and the risk of injecting undissolved particles of the drug is obviated. The filter is now replaced by the needle and the injection proceeded with. As the needle punctures the vein dark blood will be observed flowing into the syringe. At this moment an assistant removes the constricting band from the arm and the piston is slowly pressed home. The whole procedure may be carried out in about two minutes, and my personal experience of it in practice has been in all cases most favourable.

The following advantages may be claimed for the method: 1. No saline solution is required, but simply a small quantity of distilled water which has been recently boiled and allowed to cool. 2. The apparatus is of a simple nature and may be easily and completely sterilised by boiling. 3. The rapidity of the method lessens the risk of any oxidation taking place.

Edinburgh.

A NEW TREATMENT FOR RINGWORM.

By C. Hughes Foley, M.B., B.Ch. R.U.I.

Ringworm is such an intractable disease, such a bugbear to schoolmasters and parents of children attending school, that any quicker and more efficient treatment than that known to us at present would be welcomed. Hence I am glad to bring before school medical officers and others a very simple and efficient treatment which leads to rapid cure.

The part being first washed with a strong solution of sodium bicarbonate, is next swabbed with a piece of lint moistened with spt. ætheris—to remove grease. It is next dried, painted with tinct. iodi, and an ethyl chloride spray immediately applied. I find it best to work with a pair of ethyl chloride tubes in each hand, as I thus cover a larger area in quicker time. The deeper the disease process the longer the spray must be applied. I spray until the integument gets china white, then I cease. It will be found that in from 24 to 48 hours the patch of ringworm has become quiescent. Next little tiny spots should be looked for and treated in a similar manner, when they also disappear in from a few days to a week. In ringworm of the scalp three or four applications of iodine and spray are required, but on the face or smooth surfaces one application suffices.

I have succeeded in curing ringworm of months' standing in one week by this method, and it has never failed me since I first thought it out last year. In most of my cases the patients were infected by handling cattle and calves. I should be glad to hear of the experience of others, whom I would urge to try it.

Ardrahan, co. Galway.

REDUCTION OF SHOULDER DISLOCATIONS.

By Julius Cæsar, F.R.C.S. Irel., &c.

That all dislocations of the shoulder are troublesome, and at times impossible of reduction without an anæsthetic if the routine as set forth in works on surgery be followed, will, I think, be admitted by all surgeons who have had any experience in these cases. Taking this view of the matter I submit for the consideration of the profession a practice I have carried out for the past 25 years with uniform success in those forms of the dislocations which have come under my care—viz. subglenoid, subcoracoid, and subscapular; of subclavicular I have had no experience. I have reduced these dislocations in the feeble youth of 15, the muscular carter and the ex-soldier with equal facility and without giving rise to the least pain or anxiety as to injury to vessels or nerves; and have carried out the practice on the sea-beach and the road as readily as in my surgery. The only adjunct required is the help of a third party to control the sound arm.

My mode of procedure is the acme of simplicity, and is as follows. Having divested my patient of all clothing necessary—it is not always requisite to remove the vest and shirt—I place him on the ground in a sitting position and grasp the wrist of the injured side, the third party doing the same with the sound one. We then raise both arms straight above the head, taking care to keep them parallel, and extending them upwards till the patient is just raised from the ground, at which point a click is heard and felt and the dislocation is reduced without further manipulation, except that occasionally in cases of subscapular dislocation it may be necessary to slightly rotate the arm from right to left in the case of left and from left to right in that of the right arm. These movements are, of course, carried out during extension.

Ilchester, Somerset.

Garden Cities and Town Planning Association.—The annual meeting of this association will take place at the Carpenters' Hall, Throgmorton-street, on Feb. 16th, at 4 p.m. It is proposed to deal with the economic aspect of the true garden city scheme, and a brief lantern lecture will be given illustrating the position of the garden city movement at the present time. Cards of invitation to the meeting can be obtained from the secretary, 3, Gray's Inn-place, Gray's Inn, W.C.

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SURGICAL SECTION

Nephropexy and its Results

A MEETING of this section was held on Jan 13th Mr G H MAKINS the President, being in the chair

Mr G PERCIVAL MILLS opened a discussion on Nephropexy and its Results He said that his paper was based upon an attempt to investigate and impartially to consider the results of nephropexy by following up and examining a series of cases operated on by various surgeons in the General Hospital, Birmingham The results fell into two sections A, the mechanical results, and B the functional results A The mechanical results were shown in the following table —

	Fixed high (per cent)	Fixed low (per cent)	Relapsed (per cent)
(*a*) All cases	53	23	23
(*b*) Fixation to rib + capsular suspension sutures	73	0	26
(*c*) Suspension sutures only	62	12	25
(*d*) Suture to muscles of loin	12	75	12

He said that the superiority of operations *b* and *c* was obvious from these figures for though *d* showed fewer relapses than did any other method it usually resulted in a low fixation associated with a bad functional result Of cases in which a fairly efficient operation had been performed two years ago or less 23 per cent were found to be relapsed, of cases similarly *operated on three and four years ago 28 per cent* were relapsed The great majority of relapses therefore occurred during the first two years B The functional results were recorded entirely from the statements made by the patients themselves and had been tabulated in such a way as to indicate if possible the class of case in which operation was likely to be successful The gross results were thoroughly bad showing only 33 per cent of cures A class of case characterised by chronic lumbar pain only unassociated with any neuroses gave a rather better result—i e 50 per cent of cures On the other hand in those cases in which the lumbar pain was associated with general symptoms, such as headache, gastric discomfort depression or "nervousness," the percentage of cures fell to 9 The more the symptoms were confined to the affected loin the more probable was a cure by nephropexy A further analysis of the symptoms showed the possibility of grouping together a series of cases in which uncomplicated lumbar pain was *quite definitely relieved by rest in the horizontal position* In this group 75 per cent of the cases were cured this being the best result obtained from any group of cases On the other hand in the group of cases in which uncomplicated lumbar pain was *not relieved by rest* not a single case was cured by nephropexy The tabulated results were as follows —

Gross results (57 cases) ..	33 per cent cured
Cases with lumbar pain only (34 cases)	50 „ „
Cases of lumbar pain + dyspepsia or some neurosis (21 cases)	9 „ „
Cases of uncomplicated lumbar pain relieved by horizontal rest (20 cases)	75 „ „
Cases of uncomplicated lumbar pain unrelieved by horizontal rest (10 cases)	None cured

The following were his conclusions —1 The general

the persistence of the symptoms after a successful operation 3 The symptoms due to a movable kidney were chronic lumbar pain of the renal type described which was absolutely relieved only by horizontal rest These symptoms if present alone were nearly always cured by nephropexy 4 When lumbar pain was associated with neurotic symptoms, nephropexy rarely gave relief 5 Nephropexy failed to cure cases of dyspepsia which were supposed to be due to obstruction of the duodenum by a right movable kidney (of five such cases in the series none were cured) 6 The indications for nephropexy in a case of movable kidney were as follows (*a*) Intermittent hydronephrosis, (*b*) pain of the character described above, and (*c*) possibly in a few cases of Glénard's disease

Mr J W THOMSON WALKER said that there was probably no other operation where the results depended so closely upon the proper selection of cases as in that performed for movable kidney When we spoke of late results we were entitled to ask for some account of the class of cases operated upon and what manner of operation was performed He would discuss the question on these lines I What class of patients were operated upon? Leaving aside cases where a movable kidney was discovered and no symptoms were present (cases which everyone agreed should be left alone) there remained (*a*) those in which there were symptoms directly connected with the kidney, such as definite renal pain, hæmaturia casts albumin, and (*b*) those in which there were symptoms not directly referred to the kidney This class admitted of further subdivision into (1) Cases with gastro intestinal symptoms and (2) cases with nervous symptoms With regard to the first class of cases where there were symptoms definitely renal in origin operation should be performed, and the results, if the operation were successful in fixing the kidney, would be uniformly good He had not had a single case in this class which did not lose all symptoms after operation Turning now to the second class of cases In those patients who complained of gastro intestinal symptoms, these symptoms were due to dragging or to adhesion between the kidney and the duodenum and colon Sir Arbuthnot Lane had pointed out, and Mr Walker's experience was in entire agreement with what he said, that adhesions around the cæcum and colon might be a contributory cause in the production of movable kidney by dragging on that organ We should therefore be very careful in these cases with gastro intestinal symptoms that we did not operate on the kidney when the trouble was much more extensive affecting the bowel primarily, and the kidney only secondarily He had found that the cases in this class that were likely to do well after nephropexy were those that were benefited by rest in bed and were made worse by exercise In the cases that showed nerve symptoms we were on even less firm ground If we set aside those cases where pain definitely arose in the kidney, there was a large class of cases with movable kidney and a varying degree of neurasthenia It was the practice of some surgeons to operate on these cases and to claim success in the treatment It was the experience of others that operation in these cases was unsatisfactory, since the patient either retained all her symptoms or they recurred after a short period of time His views coincided with the latter For one success in a neurasthenic we saw many failures, and he believed that it was very rare for the symptoms to be abolished permanently The test of rest might also be applied here but it was not so reliable in this class When we went a step further and recommended as some surgeons did, the operation of nephropexy as a cure for insanity, he confessed that he had had no experience in such cases II The second cause of failure in the results of the operation of nephropexy lay in the method of operation If one could judge by the numerous operations that were described for fixing the kidney the attention of the profession appeared to have been principally focused on this aspect of the question There were two questions that surgeons should seriously consider (1) Did they wish to fix the kidney absolutely or did they want to retain a certain degree of mobility of the organ, and (2) Were they correct in ascribing to low fixation the cause of their failures? First, in regard to absolute fixation A kidney stitched high up under the diaphragm was not fixed, a kidney, the lower pole of which rested upon a shelf of peritoneum or fibrous tissue was not fixed If nephropexy was done the object should be to fix the kidney completely If any movement was allowed it was impossible to control the amount of movement or to be certain that the movement would not take place in some unexpected direction which would throw a strain on the vascular pedicle or the ureter and thus perpetuate the symptoms In order to carry this out the muscles of the posterior abdominal wall should be prepared by dissecting away the loose areolar tissue fat and muscular sheath and in order to do this a four or five inch incision was necessary Only the posterior surface of the kidney should be stripped of its capsule The anterior surface should not be stripped, for the result was adhesion to the duodenum and colon, and from what he had already said this would be seen to be undesirable. Secondly, in regard to position. Most of the evidence he had seen produced to show that the low position of fixation was the cause of failure in some cases had been of the most flimsy character. So long as there was no dragging of the vascular pedicle and no twisting or other obstruction of the ureter—both of which could easily be guarded against—he saw no reason to believe that a kidney fixed lower down than its normal position need give rise to symptoms. If the kidney lay internal to the outer border of the quadratus lumborum there would be no danger of painful pressure by the clothes. If it was stitched to the lateral wall of the abdomen it might be in danger of being nipped between the ribs and iliac crest, as one author stated, but surely no reasonable surgeon would care to stitch it in this position. He had no objection to placing the upper stitch through the interspace above the twelfth rib. It had been urged against this that the pleura might be injured and that the mobility of the rib loosened the kidney. He had not seen any harm to the pleura result from such a suture. The twelfth rib was fixed, it did not move with respiration, being held rigidly down by the arcuate ligament.

Mr. WILLIAM BILLINGTON said that during the past nine years he had operated on upwards of 500 patients with nephroptosis, and had performed nephropexy about 800 times, both kidneys being dealt with at the same time in a majority of the cases. Careful records of his patients had been kept, and as only about 25 per cent. were hospital cases, it had been easier than usual to keep in touch with their subsequent progress. The operation performed was that described by him in 1907.[1] It had proved so satisfactory that no essential modification of the technique had appeared to be advisable. In his series there had been four deaths, an operative mortality of less than 1 per cent. To his knowledge only one kidney had broken loose again, and with the exception of one patient in whom a small hernia developed in the scar, and two or three who had subsequently suffered from pain in the back, there had been no unpleasant sequelæ. In estimating results several points had to be attended to and a distinction drawn between surgical failures and failure on the part of a successful operation to confer benefit on the patient. A successful operation was, of course, one which efficiently and permanently anchored the kidneys in their normal position and was free from unpleasant sequelæ such as pain, weakness of scar, persistent sinus, &c. Only when such surgical success had been obtained was it fair to estimate the value of the operation therapeutically. At this point he would emphasise the absolute necessity, if satisfactory results were to be uniformly obtained, of replacing the kidneys as nearly as possible in their normal position. He fully endorsed Goelet's statement that a kidney fixed in an abnormal position frequently caused more trouble than when it was freely movable. In estimating the results of nephropexy as regarded general health and working efficiency, he thought that we must clearly realise that when the operation was performed for other than local symptoms it did not make the patient well, but only made it possible for her to get well. Time and treatment on ordinary lines were essential before full restoration to health could be obtained. He claimed that in a very large percentage of properly selected cases nephropexy converted a previously incurable patient into a curable one. In the absence of definite local symptoms he never advised operation until satisfied that ordinary treatment had had a fair trial and had failed or had been followed by rapid relapse. Much unfair criticism of nephropexy had resulted from (1) failure to test the surgical success of the operation before judging of therapeutic results; (2) failure to realise that operation must be followed by careful and prolonged after-treatment; (3) failure to allow of a sufficient interval between the operation and the time at which it was safe to judge of its effects—for patients who had suffered for years from functional troubles and neurasthenia an interval of at least one year was essential before the full benefit could be expected; (4) the selection of unsuitable cases for operation. If the patient was to be made into a normal person he must at one time have been normal. In other words, the operation would not make a congenital degenerate normal. As to results, in his own series of cases he had made two different investigations: Two years ago for the purpose of an address before the Chicago Medical Society he inquired into the condition of 100 consecutive cases, Nos. 151 to 250 in his series; one full year of time elapsed in every case between the operation and the inquiry. He was successful in obtaining information about 87 of these patients, and from this he found that about 60 per cent. were well in the sense that they were leading ordinary lives and did not need medical attendance; 20 per cent. were considerably better; 10 per cent. were better; and 10 per cent. were no better. To test these results, on being asked to take part in this discussion, he submitted the following questions to 11 practitioners, 70 of whose patients he had operated upon: 1. Had the operation been a surgical success—i.e., had it efficiently and permanently anchored the kidneys and had it been free from unpleasant sequelæ? 2. Had the general resulting benefit justified the operation? His reason for doing this was that he believed that the medical man who had known the patient beforehand and had had charge of her afterwards was best qualified to judge of what the operation had achieved. In order, also, that an opinion should not be bas upon too limited an experience, no practitioner was writt to who had not observed at least three cases. His very be thanks were due to these practitioners for the great ca they had taken in confirming general impressions by actual seeing or writing to their patients before answering h inquiry. A summary of the replies received was contain in a printed sheet he distributed. In a few words, it inc cated that in all the 70 patients the operation was a *surgic* success; in only one case, that of a lady who had pain her right side, was there any mention of after-trouble. the general benefit that had resulted, only 5 cases we reported as failures, while many were described as havi been changed from chronic invalids into absolutely norm people. One final word as to the result of nephropexy mental disease. He had operated upon about 30 lunatic 50 per cent. of whom became sane subsequently and ha remained so. Some of these patients had been operated up seven or eight years ago. The results in some of these cas had been observed by Dr. A. Miller, superintendent of t Warwick County Lunatic Asylum, whose general view of t question was contained in the letter in which he answere Mr. Billington's inquiry and which was circulated. Recent at his request Mr. Billington had operated upon two patien under his personal care. One of these was now well an the other rapidly improving.

Mr. SEYMOUR G. BARLING said that he had operated upo about 20 cases of this condition. He always selected thos in which there was a definite lumbar pain or renal symptoms No success attended the operation if general symptoms alon were present.

Mr. HAROLD GARDINER presented the statistics of such cases as had been operated upon at Guy's Hospital for the four years 1909–12. There were 26 operations; 21 patients were relieved; 5 were not completely relieved. The results given, however, were only those within six weeks of the operation. The usual procedure was a simple stitching of the kidney to the posterior abdominal wall, but in a few cases the kidney was slung to the twelfth rib. Under both procedures the results were approximately the same.

Mr. H. BLAKEWAY summarised the results obtained at St Bartholomew's during the same period. 62 patients had been operated upon, 59 female and 3 male. In 43 the right kidney was affected, in 9 the left, and in 10 both were movable. In only two had the operation been performed on both sides. In nearly all the kidney had been simply sutured to the posterior abdominal wall, but in a few also attached to the last rib. All were selected cases. The ages varied from 18 to 54 years. The duration of the symptoms covered periods up to 12 years. He had written to all the patients, had seen 14, and traced 21 by letter. One had died, 26 were not traced. The one fatal case was a woman of 33, who contracted pneumonia and died four months later from chronic interstitial pneumonia Post mortem it was found that the kidney had not been fixed in a normal position. The results were satisfactory in 22, unsatisfactory in 12, and successful on one side in 1. Of the 14 seen, 6 were satisfactory as regards symptoms, but in 2 of these the kidney was still mobile; 8 were unsatisfactory. In all these 8 the kidney was movable, except in 1, in which it was fixed.

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[1] Brit. Med. Jour., Nov. 27th, 1907.

Mr. RAYMOND JOHNSON read the statistics which had been obtained from St. Thomas's and St. George's Hospitals for cases operated upon during the same period. At St. Thomas's Hospital 53 had been operated upon; 32 of these had replied to inquiries, and the results were stated as follows: good, 16; fair, 4; poor, 2; temporary relief, 1; failure, 9. At St. George's Hospital 24 patients had been operated upon. Eight of these had returned for examination when requested; 3 were worse; 1 was much the same as before; 3 were slightly improved; 1 had completely recovered. The kidney had remained absolutely fixed in 1 only.

Mr. A. E. JOHNSON said that a mechanical cure was often more difficult than was supposed, and that all movable kidneys were not capable of fixation to the last rib. He showed pyelograms to illustrate this point. He thought that it was essential to obtain exposure of the pelvis and upper part of the ureter. The kidney should be fixed as high as possible and a bed should be prepared for it.

The PRESIDENT, in concluding the discussion, pointed out that there was no great variation in the results obtained from the different sources. The number of operations for this condition was probably decreasing in London. He had been struck by the large difference between the records of Mr. Mills and Mr. Billington, and as an explanation of this had been impressed by the point which Mr. Billington made of the importance of after-treatment, which was more readily procurable in private cases. The question occurred to him as to how far the after-treatment itself produced the results. He had not been in the habit of fixing the kidney so high as others claimed to do, and questioned the need for such high fixation. He did not think that an absolutely straight ureter was essential.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Cases and Specimens.—Vaginal Epithelioma treated by Radium.—A Case of Double Ovariotomy.—Genito-mesenterio Fold of Peritoneum.

A MEETING of this section was held on Jan. 8th, Dr. W. S. A. GRIFFITH, the President, being in the chair.

Mr. GORDON LEY showed a specimen of Fatty Change in a Fibromyoma of the Uterus. The specimen had been removed from a patient 54 years of age. The tumour had given rise to hæmorrhage, and the uterus was removed for that reason. The tumour lay in the posterior wall of the uterus. It was encapsulated, and appeared to be a fibromyoma with yellow streaks and yellow homogeneous areas scattered throughout it. Microscopically it showed a fibro-muscular tissue surrounding numerous spaces containing fat. There was no degeneration of the cell elements. Mr. Ley pointed out that the fat was situated in the cells of the connective tissue, and that the globules of fat were large contrasting with the small fat globules seen in the muscle cells in calcareous impregnation and hæmorrhagic necrosis of fibromyomata. He was of opinion that the tumour was either a condition of fatty metamorphosis of the fibrous stroma of a fibromyoma or a fibro-myo-lipoma. From the arrangement of the fat in the tissue and from the absence of young fat granule cells, he concluded that the former interpretation was probably the correct one.—The specimen was referred to the Pathological Committee, who gave it as their opinion that the tumour was a fibromyoma which had undergone fatty degeneration.

Dr. T. W. EDEN showed a case of Chorion-Epithelioma of the Uterus with Bilateral Lutein Cysts of the Ovary. The case occurred in a married woman, aged 27, who was admitted to the Chelsea Hospital for Women. The uterus was considerably enlarged, and after some days the cervix was dilated on account of hæmorrhage and the uterus evacuated of a well-marked hydatidiform [illegible] time there was [illegible] fundus, but it [illegible] patient had lost very considerably. Convalescence was normal. She was then sent to a convalescent home and requested to report herself later. Six weeks afterwards she returned to the hospital and was examined. The uterus was normal, but there was now a soft swelling in the region of the left ovary. There was no discharge from the uterus. A fortnight later the swelling in the left ovarian region had increased considerably, and a smaller cystic mass could be felt on the right side which was not detected at the first examination. Abdominal section was performed and two simple ovarian cysts found, together with a somewhat irregular uterus. Supravaginal hysterectomy was performed, and on opening the uterus masses of soft red growth were found. Sections showed typical chorion-epithelium deeply invading the uterine wall. Lutein cysts were present in the ovaries. The operation, which was performed two and a half years ago, was successful, and the patient had had no return of the disease up to the present time. Dr. Eden remarked on the total absence of hæmorrhage or discharge after removal of the vesicular mole, although a malignant growth was present in the uterus. Attention was drawn to the rapidity with which the ovarian cysts grew, and to the complete cure by operation which had resulted.—Remarks were made by Dr. WILLIAMSON and Mr. MALCOLM.

The PRESIDENT reported a case of Primary Epithelioma of the Vagina treated by Radium. The patient, aged 67, had had one child at 30; no miscarriage. Menstruation always scanty; ceased at 50. Health generally good, but had recently suffered from glaucoma and cataract in both eyes. Weight average. October, 1912: Mucous leucorrhœa first noticed, sometimes tinged with blood, but there had been no hæmorrhage or any pain. June 3rd, 1913: Examined under anæsthetic by Dr. Griffith, who found a warty papillary growth of the posterior fornix about 1¼ in. in length by 1 in. in breadth, apparently involving the whole thickness of the thin senile vagina, but the rectal wall was quite free. The cervix was senile and healthy. A portion was removed and found to be squamous-celled epithelioma. Treatment by radium by Mr. Hayward Pinch at the Radium Institute: June 16th, 25 mg., screen 1 mm. silver, 6 hours; June 17th–20th, 50 mg., screen 2 mm. lead, 6 hours each day; July 25th, Mr. Pinch found that the greater part of the growth had disappeared, leaving a small patch of the size of a sixpence, and gave another course of radium; July 25th–29th, 25 mg. radium, screen 1·5 mm. lead, each day for six hours; Oct. 14th, Dr. Griffith examined and found no trace of disease, the vagina was smooth and soft, but a little more contracted than in June. Dr. Griffith reported this isolated case for two reasons—because primary epithelioma of the vagina was a comparatively rare disease, and because of its anatomical relations, treatment by operation was not very satisfactory, whether by partial excision, as in Dr. C. H. Roberts's case, by excision of the whole vagina (Olshausen), or by excision of the vagina and uterus (Amann). He hoped to be able to report the further progress of his case to the section, and suggested that all gynæcological cases treated by radium, and of which accurate details were obtained, should be reported. References were then made to the literature of the disease.—Remarks were made by Dr. H. MACNAUGHTON-JONES, Dr. H. RUSSELL ANDREWS, Dr. G. BLACKER, and Dr. CUTHBERT LOCKYER.

Dr. RUSSELL ANDREWS brought forward a case of Hæmatometra with absence of the upper part of the vagina. The patient, aged 22, who had never menstruated, complained of abdominal pain recurring every month for the last eight years. For the last few months this pain had been sufficiently severe to keep her in bed. For a long time—she did not know how long—she had had a tender swelling in the lower part of the abdomen. This swelling reached about three inches above the pubes. The external genitals were normal, but the vagina was not more than an inch long. On rectal examination a tumour, the size of a large pear, could be felt in the position of the uterus. No distinction between body and cervix could be made out. The abdomen was opened, and the uterus, which was five inches long, distended with blood, was removed, together with a left-sided hæmatosalpinx and small ovarian tumour, the right ovary, which was normal, being preserved. The patient made an uninterrupted recovery. No trace of the external os could be found, and the vagina seemed to be completely absent except for about an inch at the lower end. Dr. Andrews considered that the removal of the hæmatometra and hæmatosalpinx by the abdomen was better treatment than drainage from below, with an attempt at making a new vagina. The operation of grafting would be a very difficult one in a case where the upper part of the vagina was wanting.—Remarks were made by the PRESIDENT.

Dr. CUTHBERT LOCKYER introduced a case of Double Ovariotomy with unusual post-operative phenomena. This case occurred in the practice of Mr. C. Hamilton Whiteford, of Plymouth, who performed the operation, and whose clinical account of the case Dr. Lockyer read in full before the society. The patient was aged 78, and in August, 1910, Mr.

Whiteford operated for a strangulated right femoral hernia. The sac was so badly infected that the pelvic colon had opened and drained through the lower border of the right rectus muscle. The patient recovered, but was left with the colostomy and a large protrusion in the femoral region. Early in 1913 the lower abdomen began to enlarge, and in June of the same year was enormously distended and presented a fluid thrill. It was decided to make a small incision into the tumour mass, and five pints of creamy dermoid fluid escaped as well as hair. Five hours later an abdominal section was performed, and a large dermoid cyst of the left ovary removed with great difficulty, owing to adhesions. There was a smaller cyst of the right ovary. Both cysts contained more or less typical dermoid elements—hair, bone, skin, &c., together with more solid material of a fibrous nature. The fundus uteri was removed at the time of the operation. The abdominal wound healed well, but on the thirteenth day after a tumour was found in the left iliac fossa. This was incised through the left rectus muscle and simulated a cyst of the left broad ligament. It could not be removed. Five ounces of thin blood-stained fluid were withdrawn on the fifteenth day. The fluid re-collected in the pelvis, and on the twenty-first day 46 ounces were aspirated; on the twenty-eighth day 20 ounces were withdrawn—a total of 51 ounces in three weeks. Examination proved that urea was absent. On the fortieth day thorough drainage per vaginam was established. The patient gradually sank, and died at the end of four months. Post-mortem examination showed small masses of hard white growth in the pelvic floor. The left inferior quadrant of the abdomen was everywhere shut off by adhesions. There was no general hydroperitoneum or visceral deposits. There was no injury to bladder or ureter. Microscopical examination of the portions of the cyst walls showed that the case was one of bilateral perithelioma. The masses in the pelvis, whether secondary or the remains of the primary growth, would account for the curious clinical feature of continuous local secretion of large amounts of fluid by the peritoneum.—The specimens were referred to the Pathological Committee, who agreed with Dr. Lockyer that they were dermoid tumours, in which definite peritheliomatous changes were present.

Mr. DOUGLAS G. REID (Cambridge) read a paper (with lantern slide demonstration) chiefly dealing with the Genito-Mesenteric Fold of Peritoneum, which he had described in the fœtus and demonstrated in adults. He pointed out that the terminal part of the ileum might be connected to the abdominal wall by (1) this fold, (2) the "bloodless" fold of Treves, or (3) adhesions (common both in the fœtus and adult). He discussed the question of intestinal flexures and showed how these might become acute. It was important to distinguish between (1) permanent flexures and (2) those which had no real claim to be regarded other than temporary. The genito-mesenteric fold appeared after the fourth month of fœtal life, was attached along definite lines and at first free as regards adhesions. Later the ileum, appendix, cæcum, &c., might adhere to it, and through it be very closely bound to the right ovary and Fallopian tube. It was very common for the meso-appendix to adhere to this main (genito-mesenteric) fold. This fold was of importance in relation to the spread of infection or inflammation from the bowel to the ovary and tube or in the opposite direction. An important point was the presence of lymphatic nodes in the fold. Surgically the fold was of importance for many reasons. It determined adhesions which, besides lowering the root of the mesentery, would act as barriers restricting the spread of inflammation. It was the commonest cause of a retrocolic position of the appendix. It would complicate operations for the removal of the appendix, &c., produce hernia, displace viscera, and possibly determine strangulation of the bowel. Variations in the position and relations of the appendix at various stages of cæcal torsion were considered and were of importance. The action of the pelvic colon in producing adhesions and obliterating the genito-mesenteric fold was discussed. Thus the fold was not so common in the adult as in the fœtus. The origin of Jackson's membrane was considered. The retro-pancreatico-duodenal fossa and other fossæ, folds, and adhesions were demonstrated, as was the supra-adhesion foramen. Their importance was considered, especially in relation to the formation of "ready-made abscess cavities" and operations upon the stomach. Practically all the points were illustrated with photographs.—Remarks were made by Professor D. WATERSTON and Dr. MACNAUGHTON-JONES.—Mr. REID replied.

SECTION OF OTOLOGY.

Exhibition of Cases, &c.

A MEETING of this section was held on Jan. 16th, Mr. RICHARD LAKE, the President, being in the chair.

Dr. DAN MCKENZIE showed a child, aged 6 years, the subject of Mastoiditis without perforation of the tympanic membrane. A month after the removal of tonsils and adenoids there was swelling in the mastoid region, and on return to hospital the cortical mastoid operation was performed. The mastoid cells were occupied by pus and granulations. At no time was there any discharge from the meatus. Recovery was uneventful.

Dr. MCKENZIE also showed, in conjunction with Dr. BENNETT, a case of Acute Purulent Otitis Media with signs of acute labyrinthitis, in which recovery ensued without operation on the labyrinth. There had been pain and discharge on the right side following influenza, and the cortical mastoid operation was performed a month later, but fever, vertigo, and deafness continued. Three weeks later the wound was reopened, but no fistula into the labyrinth was detected. The temperature fell to normal after the second operation, and the wound slowly healed. Later severe and continuous pain behind the right ear was complained of, radiating to the top of the head and down into the neck. Giddiness ensued on slight movement of the head, and there was nausea, but vomiting and no spontaneous nystagmus. Tests sho absence of hearing in the right ear, and the vestibu reactions were absent. The radical mastoid operation performed, as an exploratory measure, but all the parts w sound and there was no pus. A lumbar puncture yiel normal cerebro-spinal fluid. After a neurological exami tion functional disorder was diagnosed, and a few days lat under strong moral suasion, the pain and other sympt suddenly disappeared. The right ear has remained d and the vestibular responses are negative.

The PRESIDENT exhibited a patient after operat for Aural Vertigo. He was aged 61, and had be totally deaf for three years. The first attack of vert came on seven years ago, suddenly, while he was asle The attacks had since increased in frequency, but had been so severe as the first one. Objects around him appea to rotate in a vertical plane. Unless he kept his eyes s he vomited. He had continuous tinnitus in the left (deaf) ear. His blood pressure was 110. There was Rombergism; his gait was steady, with no deviation and ataxia. No nystagmus in the left eye (the right eye artificial). The operation was easily tolerated.

THE PRESIDENT also showed some remarkable photograp of Sound Waves (taken by Mr. Duddell, F.R.S.). They we waves produced by various agencies, such as organ pipes various shapes, tuning forks, and violin strings. The latt were quite complicated, and the degree of "interference shown in the latter was held to account for the extrem richness of tone given out by that instrument.

Mr. G. J. JENKINS showed a case of Hæmatoma Aur which he had successfully treated by operation. Th patient, a female aged 32, received a blow at night, an next day the swelling involved the whole external surface the cartilaginous part of the pinna, and was the size of a hen egg. That afternoon an incision was made along the margi of the helix. The contents were mostly fluid blood, bu there were some clots in the lower part. The blood extende somewhat into the meatus. The patient's present appearanc seemed fully to justify the course which had been followed.

Mr. SOMERVILLE HASTINGS showed a peculiar case o deafness for the purpose of ascertaining the opinions o members. The general view seemed in favour of it being functional. The Wassermann test proved negative, and various treatments had been without avail.

MEDICAL SOCIETY OF LONDON.

The Pathology of Syphilis.

AT the meeting of this society on Jan. 12th, Sir DAVID FERRIER, the President, being in the chair, Dr. W. D'ESTE EMERY opened a discussion on the Pathology of Syphilis. His paper (a summary of which appeared last week) is published in full in the present issue of THE LANCET.

Mr. J. E. R. MCDONAGH first drew attention to the cause of syphilis, which was, in his opinion, a spore that went through a complete life cycle, forming male and female bodies.[1] As a result of fertilisation of the female body by the male, which was the spirochæta pallida, spores were ultimately formed again. The spores were shown to differ from the other phases chemically, which accounted for the latent periods to be met with in the course of the disease, the syphilitic lesions being due to the activity of the spore in completing its life cycle. The pathology of all the syphilitic symptoms was discussed, and special attention was paid to the pathology of the specific nervous manifestations. Mr. McDonagh considered that the early syphilitic nerve lesions were vascular, giving rise to hemiplegia in the brain and myelitis in the cord, both lesions of the anterior surface. The late lesions were due to direct extension of the organisms from the meninges into the nerve substance, which gave rise to general paralysis in the case of the brain and tabes in the cord, both lesions of the posterior surface. The way the body reacted to the syphilitic organism and how it protected itself against it were next discussed. Mr. McDonagh considered that salvarsan attacked the spirochætæ directly owing to the free OH groups which the organism presented, since it contained in its chemical configuration an unsaturated fatty acid, but that the other phases were destroyed indirectly. Salvarsan he considered to act as an accelerator of the enzyme action with which the serum and plasma cells attacked the leucocytozoon, and this zymotic action was thought to be of the nature of an oxydase. Reference was made to the Wassermann reaction, the luetin reaction, and the tests employed for examining the cerebro-spinal fluid, but since the rationale of the chief tests was unknown Mr. McDonagh thought it wiser to defer discussion till later.

Dr. **PAUL FILDES** said that the effect of treatment upon syphilis, as illustrated by the behaviour of the Wassermann [illegible] to the stage of the disease. In [illegible] might be made negative rapidly [illegible]te syphilis the reaction seldom if ever became negative. Thus it might be said that early syphilis was curable, but late syphilis incurable. This phenomenon was due to the fact that early syphilis was a epticæmic condition, while in late syphilis no spirochætæ were found in the blood stream. Since drugs operated through he blood stream they were unlikely to affect spirochætæ which had already invaded the tissues, especially as the ffect of salvarsan was very transient. It was no longer to e found in the blood after a few hours (McIntosh and Fildes), and therefore it would have little opportunity f destroying spirochætæ which were distant from the essels. It had been suggested that spirochætæ became hidden in gummata and thus escaped, but, on the other hand, gummata were very readily curable. The incurability f late syphilis was due to anatomical, not pathological, causes. There were areas of the body into which salvarsan did not penetrate, in particular the brain (McIntosh and Fildes) Thus any spirochæta situated in the extravascular cerebral tissues would survive in spite of treatment, as in dementia paralytica. Another area which remained unaffected by salvarsan was the aorta Mesaortitis syphilitica was by far the commonest late lesion of syphilis in the post-mortem room (Turnbull and Fildes). The greater part of the aortic wall was non-vascular, and thus the spirochætæ escaped destruction.

Dr. J. **MCINTOSH** said that the difficulty of effecting a cure in the various *manifestations of nerve syphilis* was a well-known clinical fact, but why was this so since all such esions were due to the presence of the spirochæta pallida? Either the spirochætæ had become resistant to the medicament or else they were not reached by it. The first was readily disposed of, as there was no direct evidence in support of the contention. Three years ago, while investigating the distribution of arsenic in the organs of a congenital syphilitic infant who died shortly after salvarsan treatment, he was struck by the fact that no arsenic was present in the brain. An examination of several other brains, both human and animal, demonstrated that arsenic did not get into the brain even after large doses of arsenical preparations had been given. At first Dr. Fildes and he considered that this merely showed that salvarsan did not fix on the brain substance, and was therefore not neurotropic. They, however, had found that salvarsan fixed as readily *in vitro* to the brain as it did to the liver. The failure of the arsenic to reach the brain they considered was due to two causes. 1. The active duration of arsenical preparations in the blood stream was very short, due to its being rapidly "mopped up" by the liver and other vascular organs. *In man, even after a maximum dose of neo*-salvarsan, little or no arsenic was present in the blood after an interval of 12 hours. In fact, a therapeutic quantity was only present for three or four hours. 2. A peculiar anatomical construction of the brain and its membranes, in particular of the capillaries. It had been said that the arsenic failed to reach the brain because it did not gain access to the cerebro-spinal fluid, which was looked upon as the lymph of the brain. They, however, could not agree with this, as it was most unlikely even from its composition alone that cerebro-spinal fluid was a nutritive medium. As regarded the therapeutic effects of Swift's intraspinal injections they had found that the amount of serum injected contained a therapeutic dose of salvarsan, so the curative effect was due to this and not to any syphilitic antibodies.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Jan. 9th, Dr. A. K. Chalmers, *the President, being in the chair.—Dr. Andrew A.* McWhan read a paper on Problems of Rural Housing. He said that the failure to provide a sufficient number of sanitary dwellings for the working classes had been attributed to the indifference or unwillingness of local authorities to carry out the provisions of the Housing Acts, more especially when these involved the possibility of increasing the local rates, and to the difficulty of erecting suitable dwellings at a cost allowing of their being let at a remunerative rental; but in rural districts there were also economic considerations complicated by political opinions, particularly on the land question. In Scotland the problem of reconstruction was complicated by the fact that many rural houses were built of stone and were without damp-proof courses, which on account of excessive cost could not be inserted in existing dwellings. Although the duty of providing houses was cast upon rural authorities it was unlikely that they would carry out that duty without central pressure, and county councils were not likely to be any more active. If the Housing Acts were to be administered honestly and conscientiously by the local authorities and it was found that the cost entailed in housing schemes involved a charge which rural industries could not bear, the solution of the housing problem lay with economists and politicians, and not with sanitary officials.—Dr. W. G. Savage agreed that medical officers of health often found themselves considering the problem from the administrative point of view as well as from the broader aspect in relation to the economic welfare of the country. In his opinion the essential business of the medical officer of health was to carry out his legally prescribed duties and neither to neglect nor to modify them because he considered that to do so would make existing matters worse. It was his duty to ascertain and to represent all unfit houses to his authority. It was for the authority to consider the representation and to decide as to the necessity for making closing orders. The owner of a condemned house should always be supplied with a full list of its defects which when remedied would make the house fit.—Mr. F. E. Fremantle *advocated the provision* of three-bedroom cottages, and considered it should be made illegal for a girl over 6 years of age to occupy the same bedroom with boys or men.—Dr. A. H. Bygott uged the importance of building by-laws and thought that county councils should have the power to make them —Dr John Taylor preferred to see a minimum floor space insisted upon rather than make three bedrooms compulsory. It would be useless to send the housing problem [illegible] it must be dealt with by the central [illegible]ation of a [illegible] powers of a local authority, and should only use them when the latter did not desire to do so.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on Jan. 16th at the West London Hospital, Dr. F. S. Palmer, the President, being in the chair.—Three short papers were read on the subject of Congenital Abnormalities.—Dr. E. Arthur Saunders discussed Abnormalities from the Medical Side.—Mr. N.

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[1] THE LANCET, Dec. 14th, 1912, p. 1650.

stomach, intestinal mucous membrane, and the kidney.

We have nothing but praise for this monumental achievement on the part of the author. It is far and away not only the best but the most comprehensive book on the subject. We wish most heartily that it may speedily be presented in an English translation. It is well worthy of it. We can but thank Professor Biedl for his own successful labours on the subject and the ingathering, codification, and exposition of the colossal amount of work by the host of other observers whose names and the titles of their contributions make up far more than one-third of the present volume.

Diagnostic Methods, Chemical, Bacteriological, and Microscopical: A Text-book for Students and Practitioners.

By RALPH W. WEBSTER, M.D., Ph.D., Assistant Professor of Pharmacological Therapeutics and Instructor in Medicine in Rush Medical College, University of Chicago, &c. Third edition. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1913. Pp. 692. Price 18*s*. net.

WE are glad to see that the favourable opinion we expressed of the first edition of this book has been justified by a rapid demand for further editions, and that the author has thus been enabled to keep the book up to date. The present form of the work still justifies the encomiums we originally passed on its completeness and accuracy, and while it is larger by some 50 pages than the first edition, its price has been reduced from 25*s*. to 18*s*.

Additions to its contents include, among others, Tollens's test for glycuronic acid, Hart's for β-oxybutyric acid, and Abderhalden's sero-diagnosis of pregnancy. The author regards Benedict's test as the best for qualitative recognition of sugar in the urine, and Bang's as the most accurate quantitative reagent. The latter seems indeed to be gaining general recognition in laboratory work. Apart from our former criticisms as to the advisability of devoting space in a manual of diagnosis to theoretical pathology such as the causation of diabetes or Ehrlich's theory of immunity, we would suggest that such procedures as the author finds to be of little or no value should be omitted, whereas, on the other hand, when a special manipulation, such as Sahli's method of tying the little india-rubber bags used for his gastric test, is noted as important, it is exasperating to be referred to the original article for guidance. The account of the diagnostic use of tuberculin is particularly meagre. There are fewer misprints than in the first edition, but we notice "oligema" for oligemia, "vesicle" for vesical, and a few more. The blemishes that we have found are, however, slight, and we unhesitatingly commend the book to the attention of laboratory workers, to whom it should prove of the greatest value.

Sciatica: a Fresh Study.

By WILLIAM BRUCE, M.A., LL.D., M.D. Aberd. With notes of nearly 700 cases and 18 plates. London: Baillière, Tindall, and Cox. 1913. Pp. 175. Price 5*s*. net.

THE view that sciatica is essentially a disease of the hip-joint is associated in these days more particularly with the name of Dr. William Bruce, whose writings on the subject are probably familiar to the medical profession. In the present little volume he has amplified his own views and supports them with a very large amount of clinical material investigated in a painstaking manner.

In a considerable number of cases Dr. Bruce says that the muscles of the hip are wasted; there is marked tenderness on pressure over the capsule of the joint; passive movements at the articulation are often limited and cause pain. Taken collectively, these arguments for the arthritic origin of sciatica are, in the author's opinion, very cogent, and he holds that when it is found that a large proportion of cases are due to hip-joint trouble it is philosophical to assume that the remaining cases also belong to the same category. He maintains that other explanations are both hypothetical and insufficient.

We do not suppose that anyone will quarrel with Dr. Bruce's contention of the frequent arthr origin of sciatica; this has long been recognise writers on the subject. If the physician will submit every case of the condition to X-ray exa nation he will be surprised at the frequency which arthritic changes in the joint can be re nised. At the same time, we cannot subscrib the generalisation of Dr. Bruce, that other expla tions are insufficient. Sciatica may be a symp of disease of the cauda equina, of tumours meningitis of the cauda or conus medullaris may complicate a myositis, or may occur as evide of definite neuritis, as, for instance, in diab sciatica. These conditions are not hypothetic their pathology is unmistakable. Some years a we drew attention to a paper by Professor E Petrén, of Upsala, on the relation of sciatica morbus coxæ senilis (unfortunately Dr. Bruce d not refer to this important paper in his bib graphy), in which evidence is adduced to show t it is possible to make a differential diagn between the types of sciatica; and the practitio who may be inclined to be satisfied with the ar ments advanced so lucidly and so cogently b physician of such experience as Dr. Bruce will well to read that article.

Handbook of Sanitation.

By G. M. PRICE, M.D., Director of Investigation, N York State Factory Commission, &c. Third edition. N York: John Wiley and Sons. London: Chapman a Hall. 1913. Pp. 353. Price 6*s*. 6*d*. net.

THIS handbook is primarily intended for sanitar tenement, and other inspectors in the vario United States services, and gives an introdu tion to some of the elements of practical sanita science. It is, however, hardly full enough to serv for English readers as an examination text-boo and as a work of reference it would, we think, hav gained by greater detail in describing matters i which strict attention to exact methods is necessar The examination of drains by the water, smoke and peppermint oil tests, or the procedure to b followed in dealing with offensive trades an nuisances, are instances in point. It is noteworth that Dr. Price, in dealing with public water supplies considers that, whether there is a public water purification plant or not, every individual household should itself be provided with some means of local water purification—a proposition decidedly foreign to British theory and practice.

The chapter on foods has been rewritten and expanded, but the short paragraphs given to the preparation of various foods seem hardly sufficient as a guide to practical food inspection, and are n always strictly accurate. The description of mil

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1 THE LANCET, May 29th, 1909, p. 1539.

powders as prepared "by slow evaporation of the water of the milk" hardly applies to the usual processes of making dried milk; condensed milk as a rule is very far from being sterilised; and the percentage of cream in milk is not the same thing as the percentage of milk in cream. The proportion of tuberculous milk which owes its tubercle bacilli to infection from the human tuberculous case is so small by comparison with bovine infection that it hardly deserves the prominence which it receives in the text. The distinctions between chilled and frozen meat might usefully have been stated, and the process of curing described under methods of preservation of meat.

An addendum to the report gives a useful set of specimen examination papers set by the New York State and municipal civil service commissioners to candidates for the various sanitary posts. These questions are searching, and some of them—for example, What is a sweat-shop? What would you do on seeing cocoanuts with one eye plugged? In what way would you find out whether a boiled lobster was fit for food?—might be expected to elicit some curious answers.

L'Action Directe sur les Centres Nerveux: Centrothérapie.

Par PIERRE BONNIER. Avec figures dans le texte. Paris: Félix Alcan. 1913. Pp. 304. Price 5 francs.

IT is somewhat difficult to follow the author of this little volume in his contention that the medulla oblongata is the "bureau of works" for the whole organism, and that it is owing to the functional activity of the medulla that every tissue element, every viscus, every mechanism, is what it is and does what it ought to do. Although the author does not, in so many words, specify the exact anatomical relations of medullary centres to the various viscera of the organism, it is probably the autonomic system of which he is speaking and to which he attributes so much. In this respect we feel that the true sympathetic system has been somewhat neglected; certainly its functional activity is of equal importance for the organism.

Assuming, however, the general position, the author proceeds to argue that it is always possible to modify the function of bulbar centres by direct afferent stimuli, the shortest path for which is by the sensory nerves of the nasal mucosa to the ponto-medullary centres of the fifth or trigeminal nerve. We may grant at once that a patient may be roused from fainting or a deeper unconsciousness by cold water thrown on the face, by stimulation of the nasal mucosa with ether or ammonia, by traction of the tongue, and so on. It is, however, a long and uncertain step from this to hold, as the author does, that there are definite points on the nasal mucosa, stimulation of which will have a special action on one or other viscus or bodily system. He makes out a sort of map of the nasal mucous membrane, and by light cauterisation in selected spots he considers that he has cured or relieved such diverse conditions as cirrhosis of the liver, claustrophobia, albuminuria, angina pectoris, exophthalmic goitre, and Little's disease. The author gives a catalogue of diseases in alphabetical order treated by himself by this method, beginning with aboulia and ending with xanthelasma. It is regrettable that any useful elements of therapeutic practice in the method, of which we do not doubt the author has had much successful experience, should be obscured by its exaltation into a panacea for all the ills, organic and functional, to which flesh is heir.

Lord Lister: His Life and Work.

By G. T. WRENCH, M.D. Lond. London: T. Fisher Unwin. 1913. Pp. 384. Price 15s. net.

THIS is an industriously written book putting out the salient points of Lord Lister's great career. The author, having had, we surmise, little or no personal acquaintance with his subject, does not represent the events quite in due proportion, but he has attacked his task with whole-hearted energy, and brings to it the qualities of fluency, and the capacity for arranging the vast stock of material which is the common property in connexion with Lord Lister's life.

It is well known that when the Listerian doctrines were first promulgated they did not receive universal approval from contemporary authorities, and indeed aroused antagonism among many surgeons both at home and abroad. London was perhaps particularly slow to perceive either the value of the work which had already been done, or its immense prospects, although in this connexion we find Dr. Wrench's description of the attitude of THE LANCET misleading. He tries to make us ashamed of our descent from persons who, in the early "seventies," displayed such "silly arrogance" and "inconceivable vanity"—if not of our present existence. Well! well! if that sort of thing, however inaccurate, will help to sell a book which presents Lord Lister as a hero we have no objection to make. But we question Dr. Wrench's wisdom in essaying so large a task as a biography of Lord Lister or an appreciation of his work. For such a task it seems to us can be discharged adequately only by someone having more familiarity alike with the details of the history as they occurred, and with the developments of modern pathology, so far as they derive from, or are connected with, or are independent of, the wonderful exploits in Glasgow, Edinburgh, and London of half a century ago. For example, Dr. Wrench does not appear to us to understand clearly what a modern pathologist means by immunity. For him it seems that destruction of the microbe by chemical agencies, whether carbolic acid or nature's complex products, is the whole objective. He does not comprehend that the use of a vaccine is an attempt to bring antibodies (not antiseptics) made by nature's own methods to the actual parts where microbes are producing their effects by the natural agencies; he does not appreciate in this connexion the limited action of the antiseptic applied externally. The wisdom and philosophy of Lister's methods really require no support, and Dr. Wrench's allusions to vaccines would not enhance Lister's achievements, if anything were wanting to that end. His concluding chapter might well have been omitted.

We do not quite understand the stricture passed upon Lord Lister's "most devoted friends and followers" who "did not become fully imbued with the wonderful simplicity that characterised the master." The cause of these remarks is the form in which Lister's written works appeared five years ago, when a collection of his scientific papers was published in two large volumes by the Clarendon Press. This publication was made at the instance of many men who desired to do some little personal honour to the famous octogenarian on the occasion of his eightieth birthday. The fact that these volumes were large, excellently printed and illustrated, handsomely bound, and distinctly expensive is set down to the "pomp and vanity of man," the vain and pompous people being in Dr. Wrench's mind, we must suppose, those who were responsible for the shape and style in which the volumes were issued. If Dr. Wrench had been familiar with the proceedings in connexion with the issue of those volumes he would have known that Lord Lister himself approved of the format chosen, the size being necessary for the inclusion of some of the illustrations.

We have no doubt that this book will obtain a good circulation, and we would not have it otherwise because of the whole-hearted admiration of Lister which pervades it, and which will be communicated to every reader. But it is not an important or judicious production.

LIBRARY TABLE.

Food Inspection and Analysis. By ALBERT E. LEACH, S.B. Revised and enlarged by ANDREW L. WINTON, Ph.D. Third edition. First thousand. New York: John Wiley and Sons; London: Chapman and Hall, Limited. 1913. Pp. 1001. Price 31*s.* 6*d.* net.—We have commended this book upon two previous occasions, and we can express no surprise that a demand has arisen for a third edition, since it presents an excellent account of modern analytical methods applied directly to the examination of foods and beverages. Considerable revision and extension have been effected in this new edition, this duty having been undertaken by Dr. Andrew L. Winton, chief of the Chicago Food and Drug Inspection Laboratory, Bureau of Chemistry in the United States Department of Agriculture. In spite of the number of new analytical details included, the size of the book has only been increased by 47 pages. Space has been wisely saved by jettisoning those earlier methods of analysis, which are now replaced by more accurate and convenient procedures. The administration of food laws in the United States is conducted on somewhat different and more strict lines than is the system in use in this country. On questions of legal procedure, therefore, the book would afford little help to the English public analyst, but it will give him considerable assistance in regard to laboratory work connected with the detection of adulteration of foods and beverages. The processes described are well up to date, and give evidence of having been submitted to practical trial in the writer's laboratory. Apart from analytical practice, the information which it contains is of interest from a general economic standpoint.

A Handbook of Sanitary Law for the Use of Candidates for Public Health Qualifications. By B. BURNETT HAM, M.D. Brux., M.R.C.S. Eng., D.P.H. Camb., late Chief Health Officer for Victoria, Australia, and Commissioner of Public Health for Queensland. London: Ash and Co. 1913. Pp. 194. Price 3*s.* 6*d.* net.—This little volume has no more ambitious object than the condensation of a very considerable mass of legal matter for the benefit of medical students desirous of taking the Diploma of Public Health. The author claims to have reduced the clauses of the Acts to a simpler and less complex form, avoiding for the sake of his readers the tiresome obstacles to rapid study imposed in Acts of Parliament by cross references. At the same time he has naturally aimed at preserving the legal meaning of the original statutory text, and so far as this object can be attained consistently with extreme brevity, he appears to have succeeded. He has undoubtedly supplied in a very small compass a useful analysis well adapted for the purpose indicated, although those who make use of it must always bear in mind that it is an analysis only, and also that the analysis which they make for themselves from the actual text of the statutes that they have to master will (whenever time is possible) give them the best and most enduring knowledge of the matter to be assimilated.

Studien zur Pathologie der Entwicklung. Herausgegeben von Dr. ROBERT MEYER (Berlin) und Dr. ERNST SCHWALBE (Rostock). Erster Band, erster Heft. Mit 44 Abbildungen im Text und 3 Tafeln. Jena: Gustav Fischer. 1913. Pp. 196. Price 8 marks.—The pathology of development is a territory as yet little explored, and no two better editors could be found to guide and direct us upon a difficult journey. The subjects dealt with are the Methods and Value of the Comparison of Human and Animal Malformations, by E. Schwalbe; Contributions to the Doctrine of Fœtal Diseases of Bone, by H. Hässner; the Biological Relations between Mother and Child during Pregnancy, by Bruno Wolff; Vertebrate Hypermelia, by Dr. Pol; and Heredity of Hypotrichosis Congenita, by Dr. G. Luizenmeier.

The Propaganda for Reform in Proprietary Medicines. Eighth edition. Chicago: The American Medical Association. Pp. 375. Price, paper, 15 cents; bound, 25 cents. *Nostrums and Quackery.* Second edition. Same publishers. Pp. 708. Price $1.50.—The Council on Pharmacy and Chemistry of the American Medical Association publishes various volumes relating to all kinds of organised quackery in medicine. The "Propaganda," a volume of reprints from the Journal of the Association, is in four parts: (1) Council Reports; (2) Laboratory Contributions; (3) Miscellaneous Nostrums; and (4) Miscellany. "Nostrums and Quackery" consists also of reprints from the Association's Journal, and deals with various advertising specialists, mail order medical concerns, mechanical fakes, medical institutes and advertised cure-alls, cough medicines, food tonics, habit-forming nostrums and "cures" for headache, kidney troubles, constipation, rheumatism, sea-sickness, cancer, consumption, drunkenness and drug habits, "female complaints," obesity, rupture, diabetes, and so forth. Illuminating information can be obtained from these volumes about most, if not all, of the more dangerous of the patent remedies.

Australasian Medical Congress: Transactions of the Ninth Session, held in Sydney, N.S.W., September, 1911. F. ANTILL POCKLEY, M.D. Edin., President. 2 volumes. Published under the direction of the Literary Committee. Sydney: William Applegate Gullick. 1913. Pp. 1346.—Our Australian correspondent referred at some length to this congress in THE LANCET of Nov. 18th, 1911, p. 1440. The present volumes contain the communications in full with abstracts of the discussions. Even a mere enumeration of the papers would require more space than we can afford. Suffice it to say that the papers cover almost the entire field of medicine and medical economics.

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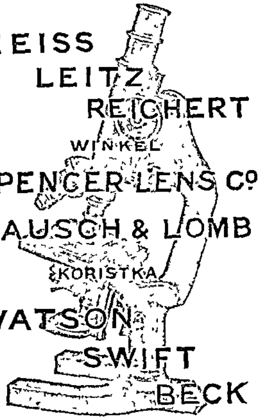

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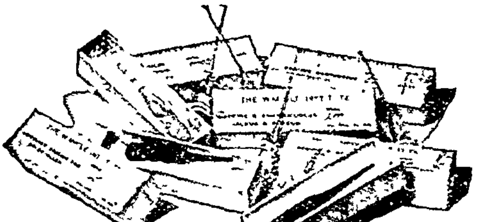

These Vaccines differ from the ordinary variety in the fact that in the course of preparation, the specific antibodies contained in the corresponding antisera are combined with the bacillary substance.

The Wimpole Institute is making a speciality of Sensitised Vaccines, and has succeeded in preparing them of the following bacteria:—

Staphylococcus Albus
Staphylococcus Aureus
Streptococcus
Pneumococcus
Gonococcus
B. Coli
B. Typhosus and
B. Influenzæ.

The Special Advantages possessed by Sensitised Vaccines are that they:

1. Produce a much more speedy rise in immunity.
2. Cause very little local or general reaction.
3. Are quite incapable of injuring the patient.

The resultant immunity is, however, not so great in degree or in permanence; the administrations have, therefore, to be made more frequently and in greater dosages.

Special Indications for their use:

1. The presence of an epidemic when rapid immunity is desired.
2. Systemic and very acute infections, especially if toxæmia be marked

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FIG. 2

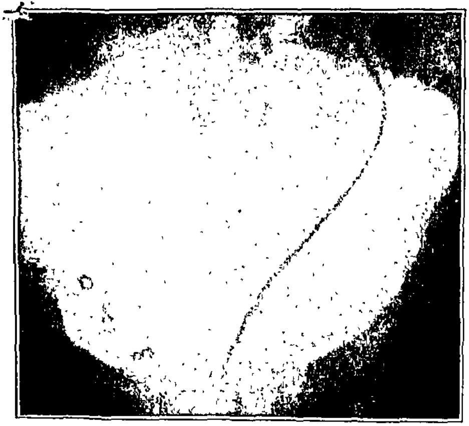


FIG. 4

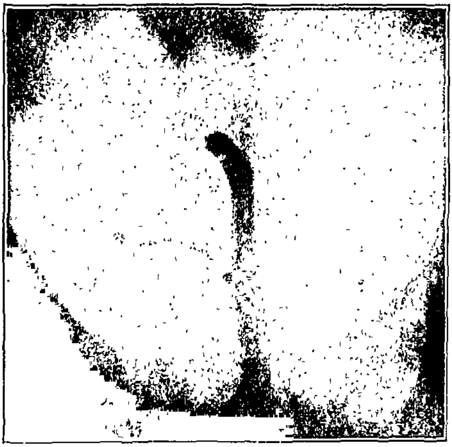


FIG. 3

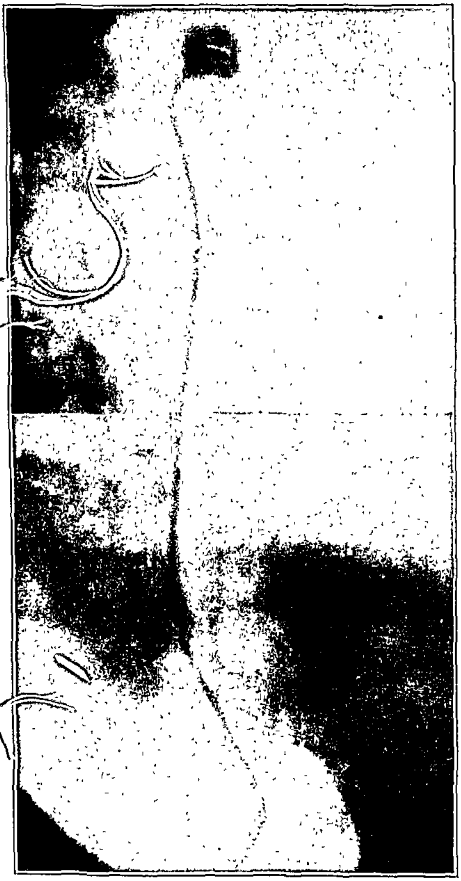


FIG. 5

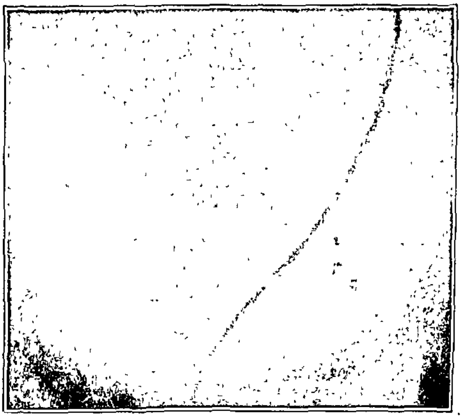
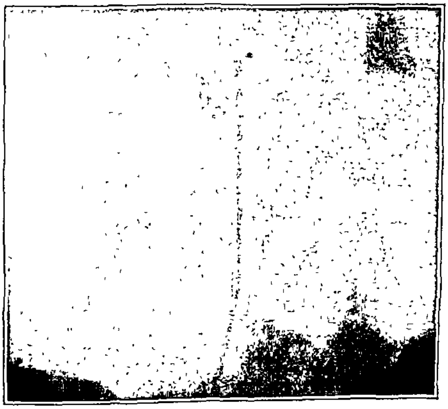


FIG. 6



To illustrate Mr. R. J. Willan's Paper on the Diagnosis of Urinary Diseases

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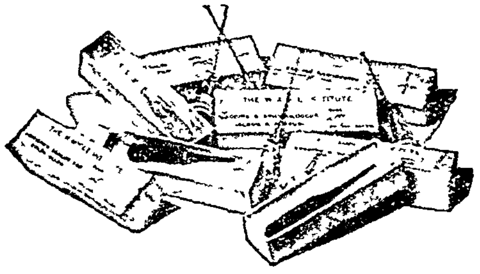

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THE LANCET.

LONDON: SATURDAY, JANUARY 24, 1914.

The Public Interest in Medicine.

ALLUSION has been made in these columns recently, and on more than one occasion, to the fact that the number of persons taking an intelligent interest in medicine grows apace; and, although this situation is full of promise, it is not without its risks. For how is the exact position of scientific medicine to be interpreted to the public with regard to any particular question in such a way that the message shall be alike sound pathologically and intelligible to those without technical training? Brief expositions of surgical achievements or medical aspirations—whether written in the definitely professional medical papers, where on occasions and for reasons they may sometimes be found, or in the lay papers, where they have become so common as to be almost of daily occurrence—are not yet so useful to the public as undoubtedly they will be when a larger number of persons receive as a matter of course some scientific training. At the present time there is no doubt that articles containing medical information or theorising, intended for public consumption, while the details of clinical treatment are under consideration, too often lead to the drawing of incorrect conclusions by the readers.

One reason for this is the necessity on the part of the journalistic author to say something definite, and this leads to statements which, however accurate taken by themselves, can with a very little gloss be made misleading to the public. Let us take as a concrete example any article upon medical treatment in a daily paper, founded upon undeniable information received from a medical man. The medical man, speaking quite honestly from his own experience, and having had successes in certain directions, communicates his results to a lay journal in response to an invitation to do so. We are not now commenting upon the propriety of the action. He may be supplying arguments on which there will be founded a charitable appeal, and how generous the support thus extended to medicine is we all recognise gratefully. Anyhow we are assuming that the medical man is acting with the single-minded desire to give to the world something the world would be the better for knowing, and that similar motives prevail with the newspaper. Neither the medical man nor the journal which obtained his assistance would be likely to claim epoch-making discoveries for the source of information; error arises in quite a different and perfectly honest manner. And in this way. The medical informant, knowing the work in the particular direction that has gone before, *and possibly able to appreciate the* kind of way in which it is going to develop, portrays the success of his particular procedure as one step in a long story. When the article appears in a lay paper, where there is no room to tell that story, isolated episodes wear, without any intention on the part of anyone, the appearance of important departures, with a promise of still greater developments for which no grounds are usually given, however solidly they may exist. Faithfully reported information, acquired from honourable sources and disseminated for the good as well as for the interest of the reader, may thus misrepresent pathological events by changing their proportional significance. So it can be when a responsible and well-informed lay organ is in question. But when less scrupulous newspapers seize on such events real harm is done. A new cure for "dumb ague," or "Stevenson's disease," is announced on the strength of a statement by one doctor that one procedure in one set of circumstances has been found useful. An imposing amount of attention is devoted to the past history and present exploits of the unfortunate practitioner whose work is now hailed as pioneer, while the medical profession is either puzzled by the praise bestowed on it for discoveries that have not been made, or irritated by the criticisms of those who reproach the profession for not having made these discoveries before.

It is not more medical learning which the public have to acquire before they can benefit by the dissemination of medical knowledge in lay journals. It is to a wider appreciation of scientific principles that we have to look for the remedy. New ideas of freedom and culture followed upon the *dissemination* of the teachings of Greek and Latin literature at the Renaissance, but the spirit of the new learning was not made more influential by the debates of philologists. What is wanted is a familiarity with the scientific aspect of things, which can only be acquired by a general grounding in natural philosophy. If the public were better prepared in this way they would be able to appraise medical achievement with more exactness.

◆

A Research Institute in Edinburgh.

AT the annual dinner of the Royal College of Physicians of Edinburgh, which was held at the College on Friday last, Jan. 16th, an informal revelation was made of a great scheme now imminent for the foundation in Edinburgh of a research institute—an institute as a memorial to LISTER, who did so much of his wonderful work both as Professor of Clinical Surgery in the University of Edinburgh and as an extramural teacher. The scheme, as partially revealed at the dinner by Sir WILLIAM TURNER, the Principal of the University of Edinburgh, with the sanction in certain directions of the chairman, Dr. GRAHAM BROWN,

FIG 7

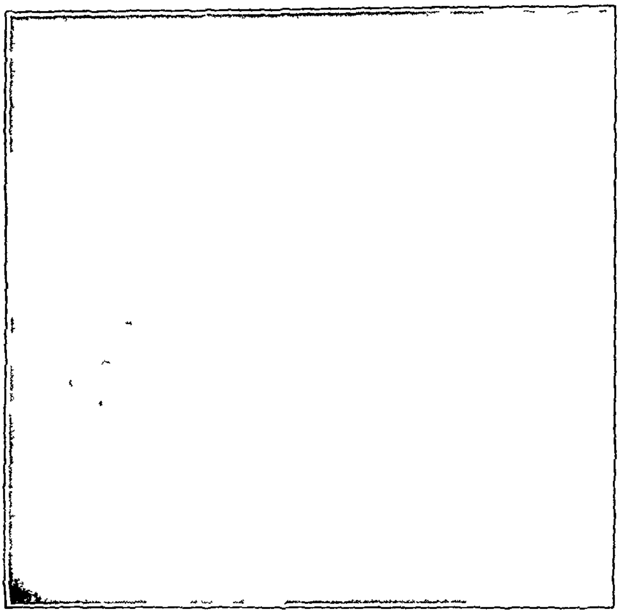


FIG 8

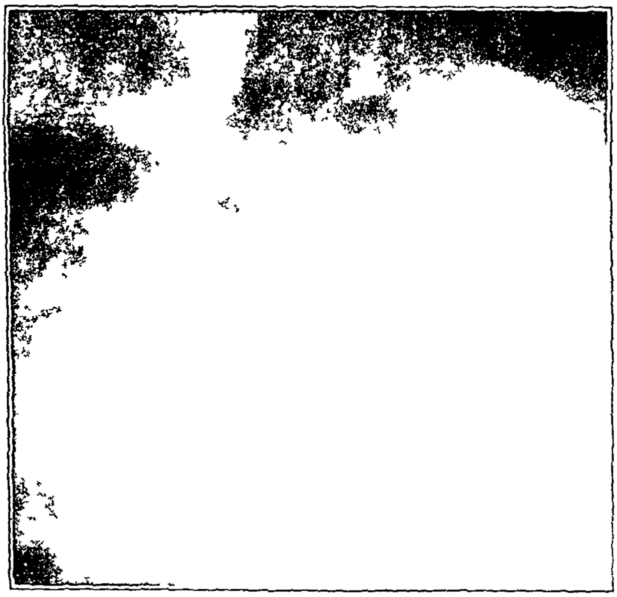


FIG 9

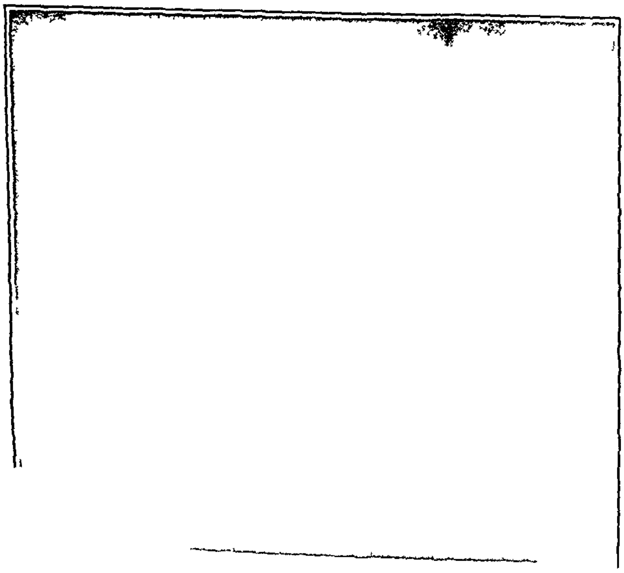


FIG. 10

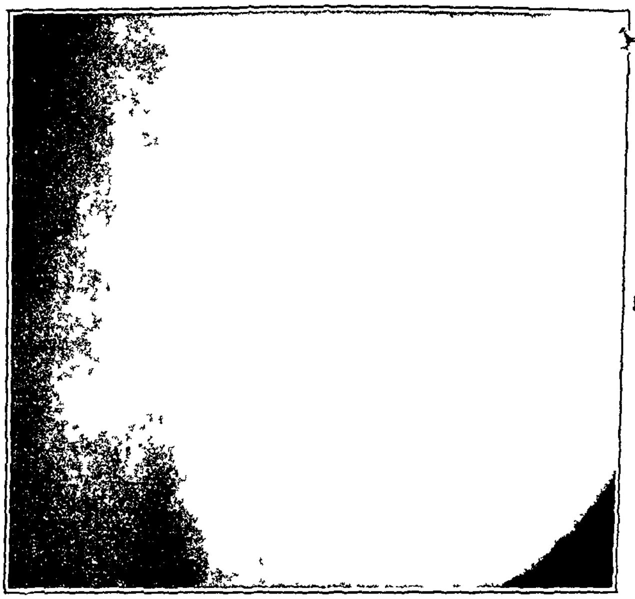


FIG 11

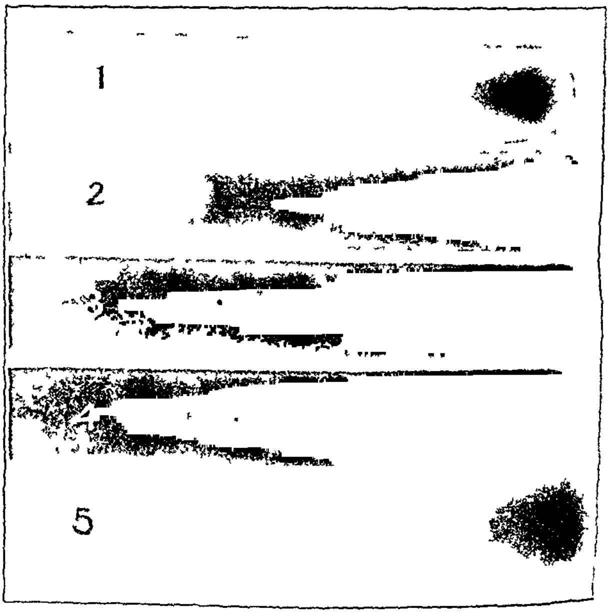
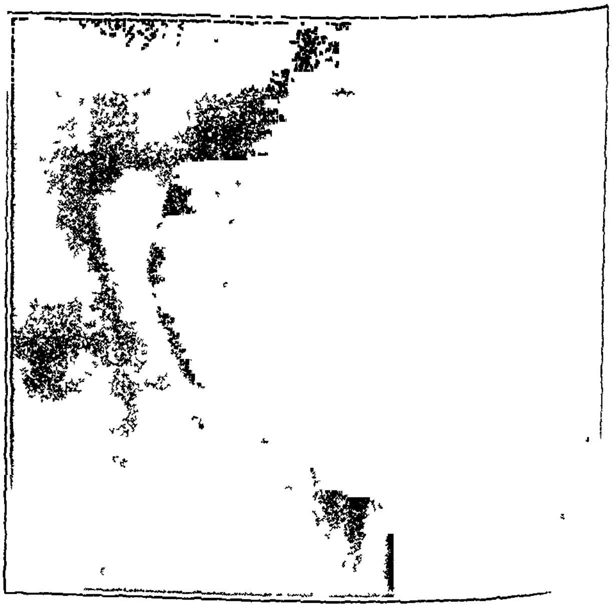


FIG. 12



To illustrate Mr. R. J. Willan's Paper on the Diagnosis of Urinary Diseases

Annotations.

"Ne quid nimis."

THE LATE LORD STRATHCONA.

WITH the death of Lord Strathcona and Mount Royal passes a great man, one whose memory will be held green by all members of the medical profession. Not only will they share with their fellow citizens in admiration for a man of indomitable courage and perseverance and inflexible uprightness, but still more, as members of a profession to which the subjects of education, the extension of knowledge, and its application to the relief of suffering are of paramount importance, they will feel grateful for his warm sympathy and munificent material support. Elsewhere eulogies on Lord Strathcona's patriotism and public services are being freely rendered. We may be pardoned for confining ourselves to a reference to the special qualities that should endear his memory to the medical profession. Let us recall that at the last International Medical Congress he showed his interest in and respect for medicine and the medical profession by giving a magnificent evening party at the Royal Botanical Gardens, which was attended by some 5000 members of the profession and their friends. This enormous number of guests was received individually by himself and by Lady Strathcona, whose loss some two months later was a blow from which he never fully recovered. His generous support of education and philanthropy is evident in the fact that his endowments to the McGill University amount to some £110,000; that, with Lord Mount-Stephen, he celebrated Queen Victoria's Jubilee in 1887 by providing £200,000 to build the Victoria Hospital at Montreal, which the same munificent donors later, in 1896, endowed with a further £160,000; that in 1896 he built and endowed the Royal Victoria College for the Higher Education of Women, at a cost of another £200,000; and that during his lord rectorship and subsequent chancellorship of Aberdeen University that ancient seat of learning benefited repeatedly by his munificence. Such being the worth and munificence of the man, well known throughout the world, the hall marks stamped on him sink into insignificance. Still it is a satisfaction to know that public and academic recognition was freely forthcoming. It will be a further source of gratification to the medical profession that his peerage is now intimately connected therewith, for by a special remainder it passes to his only daughter, the wife of Mr. R. J. Bliss Howard, F.R.C.S., of London, and her male heirs.

THE EARLIEST PRINTED MEDICAL BOOKS.

Sir William Osler is the first medical president of the Bibliographical Society, and it was fitting that he should choose for the subject of his presidential address before that society on Monday last the earliest printed medical books and the influence of the art of printing upon the art of medicine. Sir William Osler is well known as a lover and collector of ancient volumes, and those who attended the society's annual meeting not only heard an attractive discourse, but were also able to see and handle a number of early medical works and facsimile pages, arranged round the lecture room in chronological order. The period chosen for discussion and illustration was from the dawn of printing to the year 1480 A.D. This was the century of Columbus and Guttenberg, but, as the president put it, it was a sterile medical century. Hence the earliest printed medical works are of greater typographical than scientific interest. At that time the Arabian medical authors, notably Avicena, completely dominated medical thought and practice, and humoral pathology held the field; no work of Hippocrates or Galen was printed up to 1480, and only one commentary of each was published in type. The earliest known piece of medical printing is a single sheet medical calendar for popular use, printed at Mainz about 1457 by the printer of the 36-line Bible. Many such so-called calendars were circulated at this period, and their teaching is strongly flavoured with astrology. In considering the influence of Arabian medicine (which left a more permanent mark upon pharmacy than upon medical practice) Sir William Osler remarked on the enormous popularity of the writings of Avicena, whose sway lasted for centuries. His works were frequently reprinted from 1472, and innumerable commentaries appeared. In 1470 was published the first dictionary of treatment in one volume, the kind of thing, said Sir William Osler, which medical men with a liking for penny-in-the-slot treatment still call for and obtain; but the first work of this sort was also the best, for it gave many more drugs for each disease than any later rival. Speaking of the fascination of early volumes and the interest which the bibliophile finds in the biography of books, the president reminded his hearers that all books can be dated by the expert, who can tell almost at a glance from internal or external evidence when they were written and when printed. So too, he added, he himself could place in its correct decade any leading article on pathological medicine which had appeared in THE LANCET since, say, 1860. With this personal touch we must leave the recollections of a delightful and instructive afternoon.

RINGWORM CURES.

FROM time to time cures for that intractable disease, ringworm, are published, and it is usually claimed by those who devise these cures that they are infallible, though no such claim is made in this issue of THE LANCET by Dr. C. Hughes Foley in a clinical note. The disease shows little tendency as yet to diminish in frequency, in spite of the far more general and drastic attempts to eradicate it. The elaborate method of treatment by the X rays holds the field, though the "cures" under much more simple methods multiply. It is certainly curious that some of these rapid methods of cure of ringworm emanate from those who will frankly confess that they have not a very large experience of the disease, and not from dermatologists. At least one cause of this situation is undoubtedly the fact that there are various forms of ringworm, and that some of these are much more easily cured than are others. Dr. Foley's interesting account of a new and simple treatment of ringworm is a good example of this, for the author tells us that in most of his cases the patients were infected by handling cows and calves. The treatment consists in painting the part with a strong solution of iodine and then spraying with ethyl chloride, and we congratulate the author on its efficacy. But we must remember that the ringworm which most commonly affects cows and calves is due to the Megalosporon ectothrix, and that this is the form of spore which is most readily killed. We welcome the contribution, for it may be that the method our correspondent describes may prove efficacious in other and more obstinate forms of the disease, but the evidence at present available is insufficient.

KITCHEN PHARMACOLOGY.

THAT certain articles of food commonly used in the daily dietary possess a medicinal value becomes evident when we review the number of plants or vegetables which are included in the list. It is erroneous to suppose that all the articles which go to make up a meal serve merely as nutrients, for when the peculiar composition of some of them is considered there will be found principles present of the nature of medicines. It is not improbable that amongst these constituents are some which are entitled to rank as active principles in the same way as are the principles found in the drugs of the pharmacopœia. It must be admitted, however, that the pharmacology of vegetables has not received the scientific attention which has been given to drugs, and many medicinal virtues which are claimed for certain vegetables rest upon tradition rather than on laboratory inquiry. The fact, however, remains that definite principles do occur in many articles used for food, and that it is probable that they possess accordingly a pharmacology of their own, apart altogether from the question of their rôle as nutrients. To give some illustrations, claims have been made in favour of a medicinal action exercised by the onion, leek, or garlic. Onions eaten at night, said Frank Buckland, are soporific and promote sleep. They also are known to have a diuretic action and to produce perspiration. Amongst other things they are many a housewife's remedy for coughs and colds and a help to gastric digestion. The pharmacology of the onion probably rests chiefly on the presence of a powerful sulphur oil—allyl sulphide—which has marked stimulating properties. Onions also are credited with being useful in allaying the pains of rheumatism, and it is interesting to remember the use by medical men of sulphur in some form or other in that disease. The turnip, parsnip, and swede contain a peculiar oily principle which may account for their traditional value as an aperient and diuretic, while their juices are an old country remedy for coughs and hoarseness. The presence of starch and sugar would hardly account for these properties. The potato, of course, possesses a decided nutritive value, but it also contains principles, amongst which is solanin, that are credited with diuretic and aphrodisiac properties. The common cabbage is redolent with a sulphur compound which may possibly account for the value attached to it in scurvy and scrofula. Spinach is a well-known laxative—a property, however, which may be ascribed to the fine indigestible fibre which characterises it. There is present also a peculiar principle as well as a quantity of iron in organic form. The tomato exercises medicinal effects which are not completely explained by the presence of alkaline salts. There is a principle present which when taken in a concentrated state produces salivation and a free stimulation of the liver. On this account the tomato has been called vegetable mercury, and an official tincture is prepared in America. Carrots have a similar action, and form a considerable part of the meals at certain health resorts in the belief that they materially-assist in the treatment of derangements of the liver and of the biliary processes generally. As a dressing carrots have been used to mitigate pain and to sweeten surfaces. The vegetable contains a definite principle, carrotin, and a volatile oil which may possess properties that have supplied the traditional curative qualities. The list could be extended, but the foregoing examples serve to show that we may reasonably expect a definite medicinal action resulting from the ingestion of certain vegetable foods. It is also apparent that this action may be related to the definite principles which are known to exist in many of them, and so the kitchen may reasonably be rated as, to some extent, a dispensary of medicines.

BURNS OF THE EYE DUE TO THE CONTENTS OF GOLF BALLS.

IN the *Journal of the American Medical Association* of Dec. 27th, 1913, Dr. H. Lowell has called attention to the serious injuries to the eye, resulting in loss of vision, which may be produced by the contents of a golf ball. During the last few years such cases have been reported from all over the United States. A child finds an old golf ball with its covering partly removed. He removes the rest of the cover and rubber, and then comes on the core, which he bounces till it bursts or cuts it open with a knife. The contained fluid spurts over him and into his eyes. This fluid is highly caustic. Analysis shows that in some cases it consists of barium sulphate, soap, and free alkali; in others it is a solution containing zinc chloride. The following are some examples of the results. A girl, aged 9 years, was admitted into the Massachusetts Charitable Eye and Ear Infirmary on Sept. 1st, 1911. Three days before while cutting open the core of a golf ball the contents spurted into her left eye. On examination there were much chemosis and swelling of the conjunctiva. The lower fornix was practically obliterated and the cornea was diffusely whitish and hazy. On Sept. 3rd there was hypopyon filling a third of the anterior chamber and the Saemisch operation was done. On Sept. 8th the cornea was clearer above and the hypopyon was less. On Oct. 12th the cornea was only a little clearer, the hypopyon had disappeared, and there was only slight circumcorneal injection. On the 14th she was discharged with vision in the left eye *nil*. A girl, aged 11, was admitted on Oct. 23rd, 1912. On the 19th while playing with the core of a golf ball it ruptured and the contents spurted into her right eye. The upper lid was bound down to the cornea by cicatricial tissue and there were much pain and photophobia. The lid was peeled from the cornea and Cargile membrane was applied to the conjunctival surface. In June, 1913, the cornea was fairly clear towards the periphery, but there was a marked central haze. Vision was 20/200. A boy, aged 13 years, was admitted on April 11th, 1913. Three days before he opened the core of a golf ball with his pocket knife and the fluid squirted into his right eye. The whole eye looked as if covered with a diphtheritic membrane, and neither the cornea nor the iris could be made out. There were considerable photophobia and swelling of the conjunctiva and lids. After 12 days the membrane had disappeared, leaving the outer third of the cornea clear. Hypopyon appeared about the sixteenth day, and the Saemisch operation was done. On May 29th, when he left the hospital, he could see only shadows. On Oct. 4th the outer and upper fourth of the cornea was clear; the rest was densely leucomatous. There was a large symblepharon from the lower corneal margin to the lower fornix. The United States Golf Association has issued a warning against the dangerous practice of cutting open golf balls, and a Bill has been introduced into the legislature of the State of Massachusetts to prohibit the sale of golf balls containing any caustic fluid.

ACTINOMYCOSIS AND PUBLIC HEALTH.

AN entirely new phase in the history of actinomycosis is now being entered upon as the result of the investigations and conclusions of the medical officers of health of the City and Port of London.[1] These officers find that there is a very considerable traffic in ox tongues from the Argentine Republic, and that a somewhat large proportion of these, about 5 per cent., are affected with actinomycosis either in the blades or in the attached glands. They conclude, therefore, that until action is taken in the Argentine which will ensure that these tongues are carefully examined and the affected ones withdrawn, steps must be taken in the interests of the public health to inspect and regulate this traffic. Though the granules so characteristic of actinomycotic pus were known to Langenbeck and Lebert, and were carefully described by Robin in 1871 as occurring in certain "abscès anciens," it was not until the investigations of Rivolta, Perroncito, and Bollinger during the years 1868–77 on the disease as met with in cattle, that it was recognised as of parasitic nature, and several more years elapsed before the identity of the disease as met with in men and cattle was postulated by Israel and Ponfick. This identity is, however, not admitted by all observers, and there are still lacunæ in our knowledge which, as is suggested in the report we are considering, require to be filled by further investigations. There are certainly a number of varieties of streptothrix found in diseases clinically resembling actinomycosis, some of which are aerobes and some anaerobes, but whether all cases of true actinomycosis in man are caused by the anaerobic form, or whether this holds for the majority of cases in certain localities only, and whether the forms of streptothrix found on fodder grasses are identical with those producing the disease in man and cattle—a convenient and natural assumption—these still remain subjects for investigation. Harbitz and Gröndahl[2] regard the aerobic forms cultivated from plants as differing from the forms found in human disease, and they could not infect experimental animals with these forms. It is certain that human actinomycosis is not the rare disease which at one time it was thought to be, and is met with fairly often in hospital practice, though, owing to the lack of characteristic symptoms, the cases usually masquerade under many diagnoses before their true nature is settled by bacteriological examination. The grounds on which the imported tongues are to be condemned is that they are diseased; the report is careful to state that there is no proof that there is danger of infection, or any evidence that the disease spreads from cattle to man, or even among cattle themselves. There was also no proof or suggestion that the organisms found in the tongues were living. The occurrence of the disease, usually in relation to the gastro-intestinal tract, would naturally cause suspicion to attach to food as a means of infection. Attention is drawn to the difficulty of distinguishing in some cases between the lesions of actinomycosis and tubercle; the search for tubercle bacilli in these cases gave no positive results. The relation of actinomycosis to tuberculosis is, of course, intimate and of great interest, and has been insisted upon and elaborated by Mr. A. G. R. Foulerton in his recent Milroy lectures before the Royal College of Physicians of London.[3] It is partly on account of this connexion, but chiefly because a large percentage of the tongues are affected in the glands alone, that the report suggests a regulation rendering tongues without roots and glands liable to re-exportation. This question of actinomycosis in cattle is obviously entering upon a very interesting and important phase.

THE OCCURRENCE OF UNILATERAL VISUAL HALLUCINATIONS AND MACROPSIA IN A CASE OF CEREBRAL TUMOUR.

Dr. Arnold Josefson, of Stockholm, has published in a recent number of the *Deutsche Zeitschrift für Nervenheilkunde* an interesting case of intracranial tumour in which unilateral visual hallucinations and macropsia formed the chief and localising symptoms. The patient was a woman who began gradually to suffer from intense headaches, situated in the occipital region. Some months later the acuity of her vision commenced to diminish, and not long thereafter giddiness and sickness developed. Her memory for recent events began to fail, and then definite visual hallucinations made their appearance. The patient said they took the form of stars, brown leaves, rings, &c., and that they were always localised in the right visual field. Many of these hallucinatory objects were noted by her to be very much larger than real objects of the same nature would have appeared. On examination it was found that there were double optic neuritis and right homonymous hemianopia. In addition, there was a slight degree of mind-blindness, and possibly also of alexia. It was also noted that the patient's ideas of distance and perspective were very much at fault. During the examination she frequently remarked: "The room seems so big," "The doctor seems so tall and his face so large." Not long thereafter the patient died, and at the necropsy a tumour was discovered in the occipital lobe of the left side, its posterior limit about one and a half centimetres from the occipital pole, extending forwards in the substance of the lobe to the lateral ventricle, into the wall of which it bulged. The anterior part of the lower margin of the calcarine fissure was invaded by tumour growth; the lingual gyrus was also invaded. Microscopically the tumour was a glioma. Among the interesting features of this case is the occurrence of macropsia. It is, of course, well known that macropsia and its opposite, micropsia, are found with certain peripheral lesions of the visual system. Paralysis of accommodation may produce the latter, accommodation spasm the former. The phenomena are by no means rare, further, as an aura in epilepsy, and in such cases, no doubt, the condition is of central origin. It has been remarked in hysteria, and there also the cause must be some central disturbance. Not a few organic cases have been recorded, either of micropsia or macropsia, where the lesion was certainly in the visual or visuo-psychic area of the cerebral cortex (Henschen, Uhthoff, Oppenheim, and others), and this case adds one more to the list. The exact localisation of the phenomenon, however, is by no means determined. Whether it is associated with the degree of mind-blindness from which the patient suffered is not proved. It is known that in that condition disturbances of stereoscopic vision may occur; in Oppenheim's case, however, micropsia was noted in the absence of any form of mind-blindness.

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[1] Actinomycosis of Ox Tongues Imported from the Argentine Republic. Report of Medical Officers of Health for the City and Port of London. Nov. 13th, 1913.

[2] THE LANCET, Oct. 21st, 1911, p. 1152.

[3] THE LANCET, vol. i., 1910, pp. 551, 626, 769.

AN EARLY SYMPOSIUM ON VACCINATION.

It is perfectly natural that in the opening years of the nineteenth century, when vaccination was still on its trial, there should have been numerous searchings of heart among old-fashioned medical men as to the efficacy of the new method. Vaccination at first, through being imperfectly understood by the operator, occasionally failed of its object, and we find a certain Dr. John Birch, of Spring Gardens, writing to the Royal College of Surgeons of England in 1807 to say that he believed the practice was decreasing in London, and citing at the same time a number of cases of so-called failure—i.e., the case of Rebecca Latchfield and those of Mr. Watts's children and the inmates of Lambeth Workhouse. But what really strikes the student of old reports on vaccination is the overwhelming unanimity of their writers in favour of Jenner's discovery. In 1806 a number of questions on vaccination were submitted to practitioners throughout the country, and were answered, tersely in most cases, but almost always in favour of what was still regarded as an experiment. The replies of Benjamin Brodie and John Abernethy are notable. The former, at that time assistant to Sir Everard Home, answers very briefly to the effect that he has vaccinated about 100 persons and has heard of no case of small-pox being caught by any of them subsequently. He knows of no case of ill-effects following vaccination. He says emphatically, "None whatever." His letter is dated from Home's house in Sackville-street (Dec. 28th, 1806). Abernethy, whose pupil Brodie had been, writes, using capitals in the eighteenth century manner. His replies are characteristic of the man.

1. How many Persons have you vaccinated? Abernethy: "I believe more than 200."

2. Have any of your Patients had the Small Pox after Vaccination?—in the Case of every such Occurrence, at what Period was the Vaccine Matter taken from the Vesicle?—how was it preserved? How long before it was inserted?—what was the Appearance of the Inflammation?—and what the Interval between Vaccination and the Variolous Eruption? Abernethy answers as follows: "Almost the whole of my Inoculations was done by way of ascertaining the Truth of Doctor Jenner's Assertions and Opinions and shortly after his first publication. I could not believe that the Action of so mild a poison as the vaccine could exempt the Constitution from the Influence of so potent a Contagion as the Small Pox; but though I tried by repeated inoculations and by exposing patients in Air which actually stank with variolous effluvia, I could never communicate that disease to persons previously vaccinated. It was upon the Ground of these Experiments, that I subscribed my name to a paper recommending vaccine inoculation to the public. Since that Time my Experience has been very limited as I have only inoculated the children of a few of my friends. I have not heard of any failure in these or former cases."

In answer to the question, "Have any bad effects occurred, in your Experience, in Consequence of Vaccination?—and, if so, what were they?" Abernethy merely answers, "None." "I do not know," he replies in answer to the fourth and last question, which is to this effect—"Is the Practice of Vaccination increasing, or decreasing, in your neighbourhood?—if decreasing, to what Cause do you impute it?" The document is signed "John Abernethy, Bedford Row, 31st Decr., 1806."

A TETANIC FORM OF URÆMIA.

Very few cases have been published of a form of uræmia simulating tetanus, and these leave much to be desired. They belong to a period anterior to the use of modern methods of examination, such as lumbar puncture and estimation of the amount of urea in the blood and cerebro-spinal fluid. The rarity and unsatisfactory nature of the records have led Professor Chauffard to doubt the existence of this form of uræmia. Hence the importance of the following case reported at a meeting of the Société Médicale des Hôpitaux of Paris on Nov. 14th, 1913, by M. A. Bergé and M. Pernet. A single woman, aged 61 years, was taken to the Broussais Hospital on Sept. 10th, 1912, in a state of "generalised contracture" which had followed a fall. She was first admitted as a surgical case, but as the surgeon could find no wound and the accident appeared to have been trivial she was transferred to the medical side with the diagnosis of tetanus. The history was that she had been in good health until ten days previously, when she fell on the stairs. Eight days later she was attacked with trismus, slight dysphagia, and stiffness of the neck. On admission she was perfectly conscious, and was positive that she never previously suffered from any disease. On examination there was generalised rigidity, the head was retracted and buried in the pillow, the jaws were clenched, and the abdominal muscles were tense, giving to the abdomen a wooden feeling. The lower limbs were contractured in extension; the adductors stood out like tense cords. The upper limbs were slightly contractured in flexion. At intervals attacks of slight opisthotonos occurred. On attempting to flex the head the whole body was raised from the bed. There was no risus sardonicus. The eyes were kept constantly shut, but could be easily opened. The patient suffered no pain. The pupils were not contracted and reacted normally. The pulse ranged from 100 to 120, and the temperature from 98·6° to 100·4°F. There was incontinence of urine. The physician in charge of the case, in the absence of M. Bergé, diagnosed tetanus, and gave several injections of antitetanic serum, but the symptoms persisted. On Sept. 16th M. Bergé saw the patient for the first time and agreed with the diagnosis. She was then a little somnolent. On the 17th she became comatose and there was a remarkable change in the condition of the muscles. The lower limbs could easily be flexed and the abdomen was relatively supple, but there was slight rigidity of the upper limbs and the neck was still very rigid. The trismus had disappeared. The eyes were sunken and the conjunctivæ were almost insensitive. The pupils were not contracted and did not react to light. There was Cheyne-Stokes respiration with long pauses during which the patient appeared to be dead. The knee-jerks were normal and Babinski's sign was not present. The pulse was 100 and the temperature 101·3°. This great change in the patient's condition—the coma, Cheyne-Stokes respiration, and attenuation of the contractures—raised a doubt as to the diagnosis of tetanus and suggested uræmia. Urine obtained by the catheter contained a large quantity of albumin and no sugar. Lumbar puncture yielded a clear fluid which was not under increased pressure and did not contain excess of albumin or leucocytes. It contained 3 grammes per litre of urea. Death occurred in the evening. At the necropsy no cerebral lesion was found. There was œdematous congestion of the lungs. The heart weighed 270 grammes and there was no notable hypertrophy of the left ventricle. The kidneys were small and atrophic and their capsules were adherent. The left weighed 95 and the right 98 grammes. The surface was granular. On microscopic examination they showed advanced atrophic sclerotic nephritis. The medulla of the patient was emulsified and injected into guinea-pigs, which did not react in any way. In this case the simulation of tetanus was complete; only the absence of pyrexia could have raised any doubts as to the diagnosis. The only alternative to attributing the symptoms to uræmia is to suppose that tetanus coexisted with the nephritis, but this is excluded by the apyrexia and the negative result of the injection of the guinea-pigs.

THE FOURTH CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY.

THE Fourth International Congress of Surgery, which will be held in New York from April 13th to 16th, will miss the stimulating presence of Dr. Lucas-Championnière, who presided at the Third Congress held in Brussels in 1911. Doubtless, however, Professor Depage, of Brussels, to whose energetic work as secretary the undoubted success of the last Congress was largely due, will adequately replace that distinguished surgeon whose loss the surgical world has so recently had to mourn. It is arranged that the steamer *Imperator* shall leave Hamburg on April 2nd, calling at Southampton and Cherbourg *en route* for New York, while the *Rotterdam* will leave Rotterdam on April 4th, calling at Boulogne. The steamers are timed to arrive in New York on April 9th and 12th respectively. The Congress will be opened on April 13th at 11.30 A.M. in the Hotel Astor by the President of the United States. The scientific proceedings will begin at 2.30 that afternoon with the discussion on the Surgery of Gastric and Duodenal Ulcer. On the 14th the reports on Grafting and Transplantation, and on the 15th those on Amputations will be read and discussed. During the Congress operative demonstrations will be given in the different hospitals. Only members of the society, which now numbers some 600 of the world's leading surgeons, can take part in the discussions, but the meetings are open to non-members, and it has been decided that foreign surgeons who are not members shall be permitted, on the recommendation of the delegates of their respective countries, to share in the special arrangements made for the journey. In commenting on the last Congress in THE LANCET of Oct. 21st, 1911, p. 1148, regret was expressed that there was not a much larger attendance in the British section, only 24 being present. We hope that British surgery will be more adequately represented this year. Among the entertainments provided are a special (invitation) luncheon, tea, and dinner on the opening day, a luncheon given by Mrs. Mayo for the ladies and a soirée on the 14th, a subscription banquet on the 15th, and from the 16th to the 28th excursions to Philadelphia, Baltimore, Washington, Chicago, Rochester, Buffalo, Niagara Falls, and Boston. The probable date of departure for Europe is April 28th. Further particulars can be obtained by those interested on application to the Secrétariat Général, 78, rue de la Loi, Brussels.

PSYCHIC EPILEPSY OCCURRING WITHOUT OTHER EPILEPTIC PHENOMENA.

IN the *Journal of Nervous and Mental Disease* for September, 1913, Dr. George E. Price, of Philadelphia, describes the case of a man, aged 42, in whose family history nothing of significance had occurred beyond the insanity of a maternal grandfather, whose symptoms came on after a period of very hard mental and physical work. He was heard by his wife one evening to be snapping an empty revolver in an adjoining room, and when she entered it she found him confused and under the delusion there was a man in the room whom he was trying to shoot. In less than an hour the symptoms disappeared, to be followed, however, by severe headache and sleepiness. During the next month some seven similar attacks occurred, some lasting not much longer than 15 minutes, in all of which the patient was confused and suffered from a vague delusion that there was a strange man in the room. The attacks were always followed by headache, and he had no subsequent recollection of them. As the attacks were becoming more frequent the patient was removed to the Jefferson Hospital and subjected to a full course of bromides. Great improvement resulted, and the "fits" entirely disappeared. In all of them which were observed in hospital it was remarked that the patient's face was suffused. The essential features of the attacks were clouding of consciousness, disorientation, delusions, absolute amnesia, a certain amount of sameness and automatism in the phenomena, and the subsequent severe headache and somnolence. From a consideration of the facts Dr. Price regards the symptoms as those of a true psychical equivalent of epilepsy, although there is no history of convulsive seizures in the patient or in his family. If the mental disorder occurs as the sole manifestation of epilepsy, obviously the diagnosis may be attended with some difficulty. In the present instance, however, there seems no good reason to doubt the accuracy of Dr. Price's view of the case, which is of some medico-legal importance, even though the patient did not actually come in contact with the law. A number of instances of pure psychic epilepsy have already been recorded in the literature.

TREATMENT OF ANKYLOSTOMIASIS.

ANKYLOSTOMIASIS causes the world enormous economic loss. Not so immediately and obviously fatal as plague or sleeping sickness, it yet accounts for much of the unsatisfactory work which is proverbially all that is achieved by many natives in the tropics, and beyond. It attacks myriads of bare-footed labourers in the Southern States of the Union, in Brazil, West and East Africa, India, the Straits Settlements, and in the islands of the South Seas. We recently mentioned that of 127 bodies serially examined post mortem in German West Africa 114 (93 per cent.) showed ankylostoma infection. Besides, as we know, the disease occurs in Europe, even in England. Not only is the working efficiency of its victims greatly reduced, extinguished even, but many of them require prolonged hospital treatment. Thus Dr. R. D. Keith recently[1] described in our columns cases which had to be kept in hospital for six months continuously. It is very important that for a disease so frequent the best and most speedy treatment should be known, and we therefore welcome a paper by Staff-Surgeon Dr. Greisert,[2] which summarises the reports of the surgeons in German East Africa, who had each at the request of the Government treated some hundred cases by four different drugs—beta naphthol, thymol, eucalyptus oil, and male shield fern. Dr. Greisert concludes that this last is far too expensive and unreliable for use in the tropics, and besides has no conspicuous superiority over the others. Eucalyptus oil similarly fails to commend itself, and of the other two, thymol is expensive, unpleasant to take, may cause serious or even fatal accidents, and produces no better results than does beta naphthol. Consequently he recommends this latter, and advises the following simple procedure. A purge may be ordered the night before, then 45 grains (3 grammes) of beta naphthol are given on each of three successive mornings, and it is better that the drug should be fresh. It is not unpleasant to take, patients not seriously ill need not be taken off duty, the period under treatment is short, there are no complicated rules for administration, and no troublesome sequelæ; so that the treatment can be taken in charge by laymen—for example, by planters, and the cost of the treatment, very important when coolies have to be dealt with by the hundred, is small, about 6*d.* It does not, like thymol, kill the other intestinal parasites, but santonin or other vermifuge may be administered simultaneously.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

THE Society of Tropical Medicine and Hygiene has now taken a room from the Medical Society of London at 11, Chandos-street, Cavendish-square, London, W., for its permanent quarters. Fellows will now therefore be able to use this room from 10 A.M. to 5 P.M. daily, both for reading and for the examination of microscopical specimens. A certain number of exchange publications lie upon the table, and the late Dr. Carnegie Brown's bequest of books forms the nucleus of a small library. These works can also be consulted. It is hoped that Fellows upon arriving home from abroad will make use of the room and also record their home addresses there. By so doing men from different colonies will be able to come into touch with each other, and so exchange ideas. Up to the present time the lack of such accommodation has been felt by many, and the Society hopes, now it has been able to get permanent quarters, that this want will be suitably met.

WE are informed that Mr. A. H. Tubby has been elected a corresponding member of the Société Française de Chirurgie.

HEALTH WEEK COMMITTEE.—The Lord Mayor of London has consented to act as chairman of the General Committee for promoting the Health Week, which will be held from Nov. 15th to 21st, 1914, under the auspices of the Royal Sanitary Institute.

MEDICINE AND THE LAW.

A Medical Man and his Servants: A Question under the National Insurance Act.

AT Stafford Dr. F. M. Blumer was summoned recently for failing to pay a contribution under Part I. of the National Insurance Act in respect of T. Albert, his chauffeur. Dr. Blumer, who defended himself, contended that he was willing to undertake the medical attendance that his servant might require, and that Albert had applied to the Insurance Committee for permission to make his own arrangements. This had not been refused, but had been made conditional upon the defendant's acceptance of the obligations imposed by Form 43. He had refused to bind himself to comply with Form 43; the matter had been referred to the Insurance Commissioners who declined to intervene, and he contended that it was *ultra vires* of the Commissioners to compel him to give the undertaking required by Form 43, or to make his doing so a condition for allowing his servant to make his own arrangements for medical treatment. In consequence of the refusal of Albert's application in the circumstances indicated, and as a protest against the conditions sought to be imposed, the defendant had ceased to pay contributions under the Act in respect of Albert, although paying them in respect of other servants, and although recognising fully that they would have to be paid eventually. He had, in fact, deducted the man's contributions from his wages while not stamping his card, a course which the prosecuting solicitor referred to as a dangerous one, involving the possibility of a further charge. The defence therefore resolved itself into the question whether the conditions imposed by Form 43 were *ultra vires*, and in particular those relating to the keeping of records, to which Dr. Blumer objected as impossible to comply with. The clerk to the Insurance Committee expressed the opinion that the form was provided as a draft agreement only, which need not be adopted in every detail, but that the clause relating to keeping records must be adopted if the full grant from the Commissioners was to be obtained, and further, that whether the form was *ultra vires* or not, the obligation to pay contributions under the Act was not affected. The magistrates appear to have adopted this view, as they stated at the close of the hearing that they had decided by a majority to convict. They considered that Dr. Blumer had believed that he had a good defence, and so imposed a nominal penalty of 1*s.* with costs, and ordered the payment of all arrears. Dr. Blumer intimated that he would comply with this decision, and that the case would go no further. In comment it may be submitted that, whether the point in question was a good one and was properly raised by the refusal to pay contributions or not, the Insurance Commissioners should give their consideration to the following. As administrators of the National Insurance Act responsible for the provision under it of the best available medical attendance for the insured, they have had recently under their own regulations (1) the above case, in which a medical man willing to attend his own servant, who desires to make his own arrangements, has been so hampered with what he regards as impracticable and harassing conditions that he has declined to be bound by them; and (2) the case referred to recently at

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[1] THE LANCET, Oct. 18th, 1913, p. 1117.

[2] Archiv für Schiffs und Tropen-Hygiene, November, 1913, p. 765.

Worcester[1] in which persons, also desiring to make their own arrangements for "medical treatment," have been freely permitted to do so with an unqualified person described as a "herbalist."

Eugenics and Cheap Certificates in the United States.

In the State of Wisconsin a law framed to promote eugenic marriages has had the effect of putting an end temporarily to weddings of all kinds. It prescribes a medical certificate based upon the Wassermann test as a necessary preliminary to every union, and fixes the fee at which the medical man consulted is to supply the required document at what would amount to 12*s.* in our coinage. Those acquainted with the purchasing power of money in the United States will estimate the value of such a fee, and the medical profession has refused in a body to accept it. The aid of the law courts is being invoked owing to the attitude of the medical men, and it is pointed out that not only would the application of the Wassermann test be part of the consideration for the payment of 12*s.*, but that in the whole of Wisconsin not more than 25 practitioners would be found capable of applying it.

Medical Witnesses and the Obligation to be Present.

In a recent case at the Old Bailey two medical witnesses had their expenses disallowed on account of their having been absent when their presence in the witness-box was required. In both instances they had been under the impression from a notice in the newspaper that the case in which they were to give evidence was not going to be heard at the time named in the notice, but was only to be made the subject of an application to the court. The police, however, had warned them that they ought to be ready to be called. One of them, Dr. F. S. Toogood, medical superintendent of Lewisham Infirmary, had also been summoned to give evidence in a county court, and had gone there, but Mr. Justice Bailhache intimated that the Central Criminal Court was the superior court, and that if either had to be neglected it should have been the county court. Medical men will note the importance of not disregarding any obligation imposed upon them as witnesses, even though it entails the greatest inconvenience to them, as admittedly it may do. At the same time, in these modern days of telephones and motor-cars, it should be strenuously urged upon the authorities that it is not necessary to keep witnesses of any kind hanging about to their inconvenience and pecuniary loss, if they are willing to fall in with arrangements for summoning them as soon as it is reasonable to insist upon their presence.

The Children Act, 1908, and a Parent's Refusal to have Adenoids Treated in a Child.

In the case described under the above heading in THE LANCET of Nov. 22nd, 1913, p. 1490, the Divisional Court held that the justices were wrong in dismissing a charge under the Children Act, 1908, made against Ishmael Jackson, a dealer, at Melton Mowbray police court. On the case coming again before the bench for reconsideration under the above judgment a penalty of £2 was imposed.

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[1] THE LANCET, Nov. 15th, 1913, p. 1406.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society will be held on Jan. 29th, at 8.15 P.M., at St. Mary's Hospital, W., when a large number of clinical cases will be shown. There will also be demonstrations on actinomycosis, carcinoma of œsophagus and radium therapy, and the use of artificial pneumothorax in phthisis.

LEAD CONTAMINATION OF A WATER-SUPPLY.

ONCE again a peaty moorland supply of water in Yorkshire has proved to be a source of lead poisoning through its action on the lead service pipes. In August, 1913, Dr. W. W. Stainthorpe, medical officer of health for the combined sanitary districts of Guisborough union, reported to the Local Government Board that a number of persons in that district were suffering from illness the symptoms of which suggested lead poisoning. It was further suspected that this illness was due to the presence of lead in the water supplied to the town. The matter has since received the attention of the Local Government Board, which instructed Dr. Frank R. Seymour to visit the district. His report has now been published, from which it appears that before 1912 the possibility of some action of the water on lead was recognised, since the company supplying it adopted a treatment with a view of preventing such action. Analyses had shown that the water as supplied to the consumers either contained lead or was capable of acting upon that metal. Sand filtration was originally adopted for removing organic impurities, but no precaution was taken in regard to negativing the action of the water upon lead until treatment with lime was begun in 1911. Apparently the lime treatment was not established on a uniform basis, for sometimes the public supply proved to exhibit an acid reaction. In other words, both the water and the treatment were subject to independent variations, and it is therefore probable, as Dr. Seymour writes, that "water having in a relative sense a considerable power of acting on lead may have been admitted to the town mains." At all events six samples of the treated water taken under these conditions had no solvent action on lead, although three of them had relatively considerable "erosive" actions. It is a remarkable fact that more cases of lead poisoning were discovered in the town since lime treatment was commenced than had occurred during the years preceding the treatment. Dr. Seymour says that it is difficult to account for this merely by the supposition that acid water was sometimes admitted to the town mains in spite of the treatment, and he suggests that some circumstances hitherto unconsidered must have been at work which tended to increase the plumbo-solvent power of the water. From this inquiry it would seem that treatment with lime, if consistently carried out, will effectively remove the acidity of water to which it owes its plumbo-solvent power, but it is unfortunately possible that as a result of treatment the destruction of plumbo-solvency may be more than counterbalanced by increased ability to "erode" lead. Dr. Seymour suggests that the water company at Guisborough should in future employ a competent analyst for a period sufficient to enable him to devise and carry out a series of differential experiments. These, he considers, should be made in reference both to plumbo-solvency and to plumbo erosive ability and extend over some considerable time, so that the nature of the water at different seasons of the year in storm and in drought may be fully investigated. There is a suggestion also to supplement the lime treatment with carbonate of soda. We may point out that this would in effect amount to adding caustic alkali, since carbonate of soda added to lime would produce caustic soda and carbonate of lime. We think the addition of sulphate of lime would be an interesting experiment in this case, since this salt is slightly soluble in water, and in reacting on lead would produce insoluble sulphate. It may be added that sulphate of lime is a common constituent of most water-supplies which have no solvent action on lead.

MEDICAL AND SANITARY ADMINISTRATION IN THE GERMAN COLONIES DURING 1910-11.

THE annual reports issued by the Imperial Colonial Office at Berlin respecting the medical service of the German colonies are always full of instructive and interesting information.[2] The amount of details given in these reports increases year by year, and the report now before us runs to no fewer than 808 pages. The following are the colonies dealt with in it—viz., German East Africa, the Cameroons, Togoland, German South-West Africa, New Guinea, the Caroline, Marshall, and Palau Islands, and Samoa. These seven colonies have a combined population of about 15 millions, of which upwards of 7¾ millions are included in German East Africa, which is therefore the principal colony belonging to Germany. As considerations of space will not permit us to refer to the medical and sanitary details of each colony we will confine our observations to German East Africa, the report on which occupies about 400 pages of the present volume; it well illustrates the thorough manner in which the treatment and prevention of disease are carried out in Africa by our German cousins.

German East Africa.

The medical and sanitary staff employed in this colony, which comprises an area of 384,079 square miles, includes official and non-official members. To the first of these classes belong the medical officers of the native colonial troops and the German military surgeons serving in East Africa; also the Government civilian medical officers stationed in various districts. With these are associated a number of German and native assistants, trained nurses, Sisters of Mercy, and members of the Red Cross Society. As regards the non-official doctors, a number of business firms have their own medical men to attend their employees, and two railways in course of construction, the Central Railway and the line from Usambara to Tanga, have each a medical staff. There are also some German and English medical missionaries working in the colony who give their services to the native sick gratuitously. Among the Europeans resident in the colony, numbering some 4227, there were 1387 cases of illness treated by the official medical officers, and 43,754 cases among the natives. The chief maladies for which medical advice was sought included malaria and blackwater fever, ankylostomiasis, dysentery (both amœbic and bacillary forms), venereal diseases, frambœsia, and sleeping sickness.

Plague.—Though plague is endemic in that part of the colony lying near Lake Victoria Nyanza there was no widespread epidemic during 1910-11. There were, however, some localised outbreaks, including one at Muanza, to which place, it is alleged, the infection was brought from English territory—namely, Uganda. There was also an outbreak at Lindi, where, as also at Muanza, there was a coincident epizoötic of plague among rats. Great efforts were made to destroy these rodents, and altogether 154,639 were killed up to the end of the fiscal year.

Small-pox.—Though only 560 cases, with 163 deaths, came under official notice, there were numerous other cases in various parts of the colony during the year. The precise number of attacks and deaths of these unofficially attended small-pox cases is not known. Several localised outbreaks occurred, but these were quickly suppressed by the extensive use of vaccination and revaccination. During the year 886,750 vaccinations and revaccinations were performed. The bulk of the vaccine lymph was prepared locally, 320 bovine animals being used for its production. Experiments were also carried out to test the value of lymph obtained from other animals, such as sheep, goats, swine, and rabbits; a donkey and a dog were likewise treated for this purpose. The virulence of the vaccine lymph appeared to be increased by passage through the pig and the donkey.

Ankylostomiasis.—Among the natives the official doctors treated 3816 cases of hookworm disease, 227 of them proving fatal, but only 1 case was reported among the European population. The disease was rife, too, among the native labourers employed in the construction of the Usambara railway, who were not treated by the Government medical officers but by the contractor's surgeons. Of 6203 persons whose stools were specially examined, 2572, or 41 per cent., were found to be infected. The colonial troops also had many cases. For instance, out of a company of Askaris at Lindi numbering 167, upon examination 109 were found to be passing the eggs of the parasite in their stools; and at Daressalem (the capital and chief port of the colony) among the Askari recruits at the depôt numbering 461 there were 98, or 21·8 per cent., infected by the disease. The habits of the natives assist in the spread of the infection, and efforts are being made to induce them to use latrines, but at the plantations some difficulty is experienced in getting members of different tribes to make use of the same latrine. Privy accommodation is also being provided for native huts where possible.

Malaria and blackwater fever.—In the European population 1048 cases of malaria were treated by the Government medical officers, 3121 among the natives and 95 among the military, making a total of 4807 malaria cases officially treated. Of that number 20 died. There were 56 cases of blackwater fever among the European civil population and 26 among the natives, a total of 82, of which 12 proved fatal. Special measures were taken to find out all persons carrying the malarial parasites in their blood, and these underwent careful treatment with quinine; along with this efforts were made to destroy all the mosquitoes' breeding places. At Daressalem the blood of 21,476 people was examined, and 4441 were discovered to have the parasites in their circulation. In 77 per cent. of these cases tropical ring parasites were found. At Tanga, a port on the coast and the terminus of the Usambara railway now in process of construction, 9662 native labourers were examined and parasites were found in 3075 of them. Mention is made of two Englishmen who came under official treatment, having been discovered very ill after some weeks spent in elephant hunting in German East Africa. Neither of these men had supplied themselves with any quinine, although knowingly proceeding to a malarial district. Both of them paid for their neglect with their lives. The meteorological conditions were on the whole favourable, less rain having fallen than in some preceding years.

Sleeping sickness.—Altogether 3573 cases of sleeping sickness came under observation during the 12 months, and 694 of them terminated fatally. According to the scheduled returns given in the report no fewer than 673 are classified as "cured." The cases mainly occurred in two regions—viz., (1) in the region around the Victoria Nyanza, from which 998 cases were reported; and (2) along the shores of Lake Tanganyika, where 2575 cases were notified. The measures employed against the disease are those described in the last report (for 1909-10). Apparently the situation as regards sleeping sickness in the colony is improving. Atoxyl and arsenophenylglycin are the chief remedies used in the treatment of the malady. Trial is also being made of "Hata 606." The expenditure incurred during the 12 months for dealing with this disease amounted to £16,200.

Leprosy.—This malady is widely diffused throughout the colony, and during the year a number of fresh cases came under official observation. On March 31st, 1911, there were 52 leper homes or villages where the patients were segregated and cared for; the number of actual cases of leprosy known at that date was 4335. Some of the leper homes were under the supervision of the medical missionaries.

Relapsing fever.—This infection is endemic in German East Africa, and the disease is commonly observed to spread along the caravan routes and in the stations or resting places of the carriers where the insect host, a tick (ornithodorus moubata), of the specific organism is often to be found. With a view to getting rid of these infections the huts are

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[1] Medizinal-Berichte uber die Deutschen Schutzgebiete fur das Jahr 1910-11. Edited by the Imperial Colonial Office. Berlin: E. S. Mittler and Son. 1913. Pp. 808, with 29 illustrations in the text and 20 photographs. Price, unbound, 10 marks.

[2] See also THE LANCET, March 16th, 1912, p. 747.

often burned down. Among natives 391 cases were treated by the Government doctors and 43 among the Europeans; but other cases, the number of which is not stated, were treated by the unofficial practitioners and by the medical missionaries. Of the white officers and non-commissioned officers serving with the colonial troops 17 were attacked by relapsing fever during 1910–11, and among the native soldiers 166 other cases were reported.

Venereal diseases appear to be very prevalent in the colony. Among the European civil population 302 cases and among the natives 2144 were treated by the Government medical men. In addition nearly 400 cases among the coloured population were attended by non-official practitioners. There was an increase among the troops in the number of venereal cases treated by the military surgeons, but this appears to be accounted for by the fact that there is now a much stricter control over the coloured troops, and that in consequence the occurrence of venereal disease is brought under medical treatment much more quickly and surely than in the past.

We have said enough to show the extent and importance of the information contained in this annual report upon the medical and sanitary services of the German colonies.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

City of Liverpool.—Dr. E. W. Hope's report lays especial stress upon the need for classes for children suffering from a degree of myopia rendering ordinary education difficult. A table of the results of an examination of the vision of 7525 children is given showing 356, or 4·73 per cent., with vision 6/24 or worse. The education committee in Liverpool are evidently not awake to the exceedingly serious importance of these figures. Nor, judging by the statement "sewing continues in many instances to be carried on during dark days and sometimes in badly lighted classrooms," are they awake to the importance of safeguarding the children's vision in general. It would be practically a matter of impossibility to have any satisfactory excuse for the condition referred to. It can only be due to ignorance. A short but interesting account is given of the mental condition of children, and it appears that there are constantly waiting for admission to mentally defective classes upwards of 100 children, who in some instances become too old for examination before their turn arrives. Bad nutrition is estimated, using a "lenient" standard, at 10·5 per cent., and in the *Scotland district* nearly 30 per cent. Clothing and boots are very defective in large numbers of cases Under the heading of "treatment" we notice a useful coöperation between the Liverpool Insurance Committee and the Invalid Children's Aid Association, resulting in the extension of "sanatorium benefit" to the dependents of insured persons and the obtaining of the site for a special sanatorium at Leasowe. But there is a great need of open-air recovery schools. *Arrangements are also being made* for the treatment of defects of vision by two salaried medical officers working on two afternoons a week at the treatment centre and other medical men working on a fee basis of 5*s.* per case. Dental treatment and other treatment are urgently required. Two charts dealing with measles, of which there was a severe epidemic during the year, and whooping-cough are given and illustrate the importance of school closure of *infants'* departments. Dr. Hope calls attention to the value, even if measles be accepted as inevitable, of postponing the age at which the disease is contracted and of avoiding a winter epidemic. The value of the charts at the end of the report comparing the defects and other conditions found in the different registration districts would be improved by a clear indication of the differences in density of population, in poverty, and otherwise between these districts.

City of Manchester.—The large scale of the work in this great city has necessitated an increase in the nursing and clerical staff, and calls for increase in premises and in medical staff also. The compulsory notification of measles and whooping-cough has not proved itself of much value except as an indirect means for educating public opinion as to the dangerous nature especially of measles. Ringworm and impetigo are treated by being kept under an "observation clinic," but a means of using X-ray treatment is called for. The amount of the coöperation between the school medical officer and certain voluntary associations has increased, and as a result 76 children suffering from incipient phthisis, anæmia, or debility have been sent to country homes. As many as 348,737 meals were supplied to 5047 children at a cost of slightly over 1*d.* per meal. It would be interesting to know the quantities of food supplied; the meals, judging by the particulars given, cannot be considered adequately to make up for the deficiency in the diet of those needing "free meals." When the family income is over 2*s.* 6*d.* per head in families having over three children, or 3*s.* a head in families of one or two children, a charge of 1*d.* a meal is made. Only 1579 children were fed more than six months of the year. Full reports are given by Dr. A. Brown Ritchie on the special schools and classes as well as the other routine departments of the work, and reports on "Squint in School Children" and "Colour Work in Schools" (dealing with the education of the colour sense), by Dr. E. F. M Neave and Dr. J. G. Woolham, are included.

VITAL STATISTICS.

VITAL STATISTICS FOR 1913.

THE following statement shows the birth- and death-rates and the rates of infantile mortality in England and Wales and in certain parts of the country during the year 1913, the figures being provisional:—

—	Annual rate per 1000 living			Deaths under one year to 1000 births.
	Births.	Deaths.		
		Crude.	Standardised.	
England and Wales	23·9	13·7	13 4	109
96 great towns, including London	25·1	14·3	14·7	116
145 smaller towns	23·9	12·8	13 0	112
England and Wales less the 241 towns	22·2	13·1	12·1	96
London...	24·8	14·2	14 2	104

The standardised death-rates (formerly called corrected death-rates) are the rates which would have been recorded had the sex [illegible] been [illegible] 1901. [illegible] to be

HEALTH OF ENGLISH TOWNS.

[illegible] Welsh towns, with populations [illegible] the last Census and whose [illegible] middle of this year is estimated [illegible] births and 5917 deaths were [illegible]

last week ranged from 5·9 i[illegible] Hornsey, 9 7 in Ilford, and [illegible] Burnley and in Middlesbrough, 23·2 in Exeter, 24·3 in Plymouth and in West Hartlepool, 24·4 in Halifax, and 25·1 in Barnsley.

The 5917 deaths [illegible] number in the pr[illegible] referred to the prin[illegible] 355 in the two [illegible] 80 resulted from [illegible] diphtheria, 66 f[illegible] from measles, 37 from scarlet [illegible], but not one from small-pox. [illegible] from these diseases last wee[illegible] against 1·0 [illegible] weeks. The [illegible]

The deaths [illegible]

and 65 in the three preceding weeks, further rose to 70 last week, and included 14 in London, 11 in Birmingham, 4 in Portsmouth, 4 in Manchester, and 3 in Sheffield. The fatal cases of whooping-cough, which had been 61, 76, and 64 in the three preceding weeks, were 66 last week; 13 deaths occurred in London, 13 in Birmingham, 5 in Sheffield, 4 in Manchester, and 3 in Swansea. The deaths attributed to measles, which had been 80, 76, and 66 in the three preceding weeks, further declined to 55 last week, and included 6 in Bristol, 5 in Barnsley, 4 in Salford, 4 in Burnley, and 3 each in Ipswich, West Bromwich, Bradford, Sheffield, and Middlesbrough. The deaths referred to scarlet fever, which had been 38, 34, and 43 in the three preceding weeks, fell to 37 last week, of which 7 were registered in Sheffield, 4 in London, 4 in Birmingham, and 2 each in Brighton, Manchester, Salford, Leeds, and Middlesbrough The fatal cases of enteric fever, which had been 20, 16, and 28 in the three preceding weeks, fell to 21 last week, and included 5 in London, 2 in Sheffield, and 2 in Rhondda.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 4143 to 3757 in the six preceding weeks, further fell to 3676 on Saturday last; 388 new cases were admitted during the week, against 326, 425, and 416 in the three preceding weeks. These hospitals also contained on Saturday last 1081 cases of diphtheria, 219 of whooping-cough, 58 of measles, 56 of enteric fever, and 1 of small-pox. The 1469 deaths from all causes in London were 310 fewer than the number in the previous week, and were equal to an annual death-rate of 17·0 per 1000. The deaths referred to diseases of the respiratory system, which had been 280, 423, and 511 in the three preceding weeks, fell to 400 last week, but were 89 in excess of the number recorded in the corresponding week of last year.

Of the 5917 deaths from all causes in the 97 towns, 178 were attributed to various forms of violence, and 438 were the subject of coroners' inquests. The causes of 49, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, Nottingham, and in 66 other smaller towns. Of the 49 uncertified causes of death, 9 were registered in Birmingham, 6 in Liverpool, 4 in Gateshead, 3 each in Stoke-on-Trent, Preston, Sunderland, and South Shields, and 2 in Stockport.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1207 births and 896 deaths were registered during the week ended Saturday, Jan. 17th. The annual rate of mortality in these towns, which had been 17·9, 20·3, and 20·2 per 1000 in the three preceding weeks, rose to 20·4 per 1000 in the week under notice, against a rate of 17·0 in the 97 large English towns. Among the several Scotch towns the death-rate last week ranged from 10·1 in Motherwell, 11·0 in Falkirk, and 14·1 in Clydebank, to 22·4 in Paisley, 23·0 in Hamilton, and 31.5 in Ayr.

The 896 deaths from all causes were 7 in excess of the number in the previous week, and included 67 which were referred to the principal epidemic diseases, against 85 and 79 in the two preceding weeks. Of these 67 deaths, 29 resulted from measles, 13 from diphtheria, 9 from whooping-cough, 8 from scarlet fever, and 8 from infantile diarrhœal diseases, but not one from enteric fever or from small-pox. These 67 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·5, against 0·9 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 37, 50, and 36 in the three preceding weeks, declined to 29 last week; of this number 9 occurred in Glasgow, 6 in Edinburgh, 6 in Paisley, and 4 in Greenock. The deaths referred to diphtheria, which had been 10, 12, and 14 in the three preceding weeks, were 13 last week, and included 5 in Glasgow, 5 in Aberdeen, and 2 in Edinburgh. The fatal cases of whooping-cough, which had been 11, 5, and 5 in the three preceding weeks, rose to 9 last week, of which 2 were recorded in Glasgow, 2 in Paisley, and 2 in Coatbridge. The deaths attributed to scarlet fever, which had been 11, 7, and 9 in the three preceding weeks, were 8 last week, and included 4 in Glasgow. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 9, 11, and 12 in the three preceding weeks, fell to 8 last week, of which 2 were registered in Glasgow, 2 in Aberdeen, and 2 in Leith.

The deaths referred to diseases of the respiratory system, which had steadily increased from 139 to 184 in the four preceding weeks, further rose to 230 in the week under notice; 26 deaths were attributed to various forms of violence, against 30 and 33 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 647 births and 500 deaths were registered during the week ended Saturday, Jan. 17th. The annual rate of mortality in these towns, which had been 15·9, 25·7, and 25·4, per 1000 in the three preceding weeks, declined to 21·6 per 1000 in the week under notice. The annual death-rate last week was equal to 24·0 in Dublin (against 17·0 in London and 21·1 in Glasgow), 22·7 in Belfast, 19·7 in Cork, 12·7 in Londonderry, 29·8 in Limerick, and 15·2 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 16·9 per 1000.

The 500 deaths from all causes were 88 fewer than the number in the previous week, and included 38 which were referred to the principal epidemic diseases, against 32 and 44 in the two preceding weeks. Of these 38 deaths, 12 resulted from scarlet fever, 11 from infantile diarrhœal diseases, 6 from measles, 4 from whooping-cough, 3 from enteric fever, and 2 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 0·9, while in the 16 Scotch towns it reached 1·5 per 1000. The deaths attributed to scarlet fever, which had been 7, 3, and 13 in the three preceding weeks, were 12 last week, of which 10 occurred in Belfast. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 7, 6, and 7 in the three preceding weeks, rose to 11 last week, and included 6 in Dublin and 3 in Belfast. The fatal cases of measles, which had increased from 1 to 8 in the six preceding weeks, fell to 6 last week, of which 4 were recorded in Armagh. The deaths attributed to whooping-cough, which had been 10, 7, and 5 in the three preceding weeks, further fell to 4 last week, of which 2 occurred in Newtownards. The 3 deaths referred to enteric fever were recorded in Dublin and were equal to the average in the three preceding weeks. The 2 fatal cases of diphtheria were registered in Belfast.

The deaths referred to diseases of the respiratory system which had been 89, 162, and 154 in the three preceding weeks, declined to 130 in the week under notice. Of the 500 deaths from all causes, 153, or 31 per cent., occurred in public institutions, and 6 resulted from various forms of violence. The causes of 17, or 3·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: M. Cameron to the *Cornwall*; P. H. M. Star to the *Conqueror*; H. P. Jones to the *Columbine*, additional, for Queensferry Sick Quarters; and H. B. Beatty to the *Pembroke*, additional, for East London Recruiting District and for medical charge of Naval Store Depôt. Staff-Surgeons: A. R. Thomas to the *President*, additional, for the *Maine*; and R. S. Osborne to the *Birmingham*, on commissioning. Surgeons: G. A. Finegan to the *Woolwich*; S. F. Dudley to the *Pembroke*, additional, for Chatham Hospital for instruction of Sick Berth Reserve; H. E. Y. White to the *Excellent*, temporary; W. L. Cowardin to the *Jason*, additional, for duty with Mine-sweeping Gunboats; T. Cock to the *Blake*; F. St. B. Wickham to the *Sirius*, for voyage out, on commissioning, and to the *Alert*, on recommissioning; H. White to the *Victory*, additional, for disposal, and for Portsmouth Dockyard; G. Carlisle to the *Victory*, additional, for Haslar Hospital; A. G. V. French to the *Carnarvon*; A. M. Henry to the *Minotaur*; and L. A. Moncrieff to the *Vivid*, additional, for Plymouth Hospital.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Supernumerary Lieutenant-Colonels are restored to the establishment: T. du B. Whaite, vice R. S. F. Henderson (dated Jan. 2nd, 1914); Herbert E. Winter, vice G. A. T. Bray, Supernumerary (dated Jan. 20th, 1914); and Captain Leonard Cotterill to be Major (dated Dec. 5th, 1913).

Surgeon-General W. G. A. Bedford, C.M.G., has taken up duty as Deputy Director of Medical Services to the South African Command, in succession to Surgeon-General O. E. P. Lloyd, V.C., C.B.

Colonel A. E. Tate has taken up duty as Assistant Director of Medical Services at headquarters of the Bangalore Brigade, vice Colonel F. H. Treherne.

Lieutenant-Colonel C. W. R. Healey has been transferred from the London District to the Royal Herbert Hospital at Woolwich. Lieutenant-Colonel C. H. Melville has taken over charge of the Military Hospital at Tidworth, Salisbury Plain. Lieutenant-Colonel J. W. Bullen has been appointed to the Northern Command. Lieutenant-Colonel F. J. Morgan has been appointed to hold medical charge of the transport s.s. *Plassy* leaving Bombay on March 12th.

[illegible] ry [illegible] een [illegible] the [illegible] to [illegible] W. [illegible] uty [illegible] has [illegible] ona [illegible] W. [illegible] ty. [illegible] om [illegible] L. L. G. Thorpe [illegible] Military Hospital [illegible] Madras. Major [illegible] of the depôt of [illegible] ice Major W. K. [illegible] ppointed to the Dublin District for duty. Major G. Baillie has been appointed to the Military Hospital at Colchester. Major G. J. Stoney Archer has been selected for appointment as Specialist in Operative Surgery to the Royal Victoria Military Hospital at Netley. Major H. K. Palmer has been appointed to the Southern Command for duty. Major C. H. Carr has taken up duty at the Military Hospital, Tidworth, on transfer from Upavon. Major J. H. Campbell, D.S.O., has been appointed Medical Inspector of Recruits to the Eastern Command. Major E. S. Clark has embarked for a tour of service in India.

Captain O. C. P. Cooke has been transferred from medical charge at Tipperary to the Military Hospital at Cork. Captain J. L. Wood has taken up duty at Pontefract on transfer from the Military Hospital at Naini Tal Cantonment. Captain C. P. O'Brien Butler, on arrival home from the Military Hospital at Kirkee Cantonment, has been appointed to Kildare for duty. Captain E. M. Pennyfather has embarked for a tour of service in India. Captain S. [illegible] nder orders for transfer from the [illegible] to the Burmah Division for a [illegible] W. Brown has been appointed to the Irish Command on arrival home from Jhansi. Captain C. M. Rigby has been appointed Embarkation Medi[illegible] arriv[illegible] at R[illegible] been [illegible] Poon[illegible] for duty from India, tour expired. Captain M. J. Lochrin has been appointed to [illegible] J. St. A. Maughan has [illegible] the Royal Victoria M[illegible] D. H. C. MacArthur has been transferred from the Military Hospital at Lahore to Dalhousie Cantonment. Captain E. D. Caddell has arrived home on leave of absence from the Military Hospital at Aden. Captain D. Ahern has arrived home for duty from Egypt. Captain A. C. Amy has been appointed to the Eastern Com[illegible] Captains have joined the Royal Army Medical College at Grosvenor-road, S.W., for the courses of instruction for promotion to the rank of Major:—F. D. G. Howell, P. Sampson, E. M. O'Neill, T. W. O. Sexton, T. T. H. Robinson, and G. H. Stevenson. Captain R. G. H. Tate has been appointed to the Irish Command. Capt[illegible] home for duty from Ceylon. [illegible] selected for appointment as [illegible] Sierra Leone Protectorate. [illegible] up duty at Maymyo. Captain R. H. Bridges has taken up duty as Adjutant to the Royal Army Medical Corps School of Instruction at Manchester.

Lieutenant E. C. Lang has been transferred from Kildare to Kilbride. Lieutenant J. C. Sproule has taken up duty at the Military Hospital, Devonport [illegible] Lieutenant F. R. B. Skrimshire, [illegible] Lieutenant E. A. Strachan, and [illegible] have embarked for [illegible] tenant H. C. Todd has been [illegible] Hospital at Bangalore to und[illegible] in Indian sanitation. Lieutenant H. R. L'Estrange has embarked for a tour of duty at Mauritius. Lieutenant T. H. Balfour has been transferred from medical charge at Fort George to Inverness. Lieutenant R. F. Bridges has been transferred from the Military Hospital at Cherat to Peshawar C[illegible] J. D. Bowie has taken up [illegible] nant C. M. Finny has been [illegible] duty at the Military Hospital. Lieutenant F. Hayes has been transferred from the Military Hospital at Poonamallee to Bangalore Cantonment.

INDIAN MEDICAL SERVICE.

Colonel R. W. S. Lyons has taken up duty as Surgeon-General with the Government of Bombay, vice Surgeon-General H. W. Stevenson, C.S.I. The services of Colonel R. Robertson have been placed permanently at the disposal of the Commander-in-Chief in India for appointment as Assistant Director of Medical Services.

Lieutenant-Colonel J. G. Hulbert, civil surgeon at Moradabad, has been granted six months' general leave of absence home from India. Lieutenant-Colonel V. G. Drake-Brockman has been appointed Agency Surgeon (first class) at Bundelkhand.

Major S. R. Christophers has been appointed to act as Director of the Central Research Institute at Kasauli, vice Major W. F. Harvey. Major T. S. B. Williams, agency surgeon (second class), has been appointed to hold civil medical charge at Dera Ismail Khan. The services of Major A. C. MacGilchrist have been [illegible] cial duty under the orders of the [illegible] Medical Service. Major J. K. S. [illegible] on leave of absence from India.

Captain F. W. Cragg has been appointed to officiate as Assistant Director at the Central Research Institute, Kasauli, during the absence on deputation of Captain J. Cunningham. Captain R. B. S. Sewell has joined the Army Department. Captain W. R. J. Scroggie has been granted 2 years and 15 days' general leave of absence home from India. Captain H. Crossle has been appointed an Agency Surge[illegible] the Gover[illegible] ined at Eta[illegible] on leave [illegible] has taken [illegible] the Gover[illegible] ser, civil s[illegible] uli. Captain D. S. A. O'Keefe has been granted 15 months' general leave of absence home from India. Captain W. F. Brayne, plague medical officer in Burma, has been appointed to officiate as Deputy Sanitary Commissioner to the Government of Burma. Captain J. Woods has been granted an extension of leave of absence home from India. Captain R. S. Townsend, plague medical officer at Aligarh, has been appointed to hold civil medical charge at Muttra, vice Captain H. C. Buckley, granted leave of absence.

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd North Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Martin Hallam resigns his commission (dated Jan. 21st, 1914).

1st South Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Edward J. Boome to be Captain (dated August 19th, 1913).

North Midland Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colo[illegible] the 2nd North Midlan[illegible] Medical Corps, to be [illegible] 1914).

West Riding Clearing Hospital, Royal Army Medical Corps: Lieutenant-Colonel Algernon Edward Luke Wear, from the 1st West Riding Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel (dated Jan. 21st, 1914).

Welsh Clearing Hospital, Royal Army Medical *Corps:* Major Conrad Theodore Green, from the List of Officers attached to Units other than Medical Units, to be Lieutenant-Colonel (dated Nov. 12th, 1913).

Attached to Units other than Medical Units.—Captain William A. Gibb to be Major (dated Dec. 3rd, 1913). Lieutenant Alfred S. Bruzaud to be Captain (dated Dec. 4th, 1913).

AEROPLANES AND THE ARMY MEDICAL SERVICE.

The Use of Aeroplanes to the [illegible] art of medical [illegible] carry [illegible] or 20 [illegible] hetist, [illegible] lowed [illegible] being [illegible] r the [illegible] ncipal medical service u[illegible] only yesterday the [illegible] s in practical use and its future suggests many possibilities. In coming wars the aeroplane may play a very important part and already, [illegible] very good work has been [illegible] article published in the [illegible] for July, 1913, by Captain [illegible] article the desirability of

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[1] Vide THE LANCET, July 12th, 1913, p. 100.

the Royal Army Medical Corps possessing its own aeroplanes was referred to, and it was also pointed out that in France, the birthplace of modern aviation, the medical department had already taken up the new science.

The Medjidieh Decoration.

Captain R. J. C. Thompson, R.A.M.C., has been granted His Majesty's licence to wear the Imperial Ottoman Order of the Medjidieh (Fourth Class) conferred on him by H.H. the Khedive of Egypt.

Colonel Sir W. B. Leishman, R.A.M.C., has been appointed a member of the Army Medical Advisory Board as an expert in tropical diseases.

Home and Foreign Notes.

(From our own Correspondents.)

BIRMINGHAM.

Wolverhampton and Staffordshire General Hospital.

On Jan. 12th the new pathological laboratory of the hospital was opened. The building, which cost £1300, has been erected from plans by Mr. A. W. Worrall, and the equipment will cost an additional £100. It will be in charge of Dr. William Boyd, who was appointed pathologist at the hospital last June. While the laboratory is to be used primarily for the hospital, provision will be made for the needs of general practitioners and of veterinary surgeons. The opening ceremony was performed by Sir Clifford Allbutt. Mr. Shaw-Hellier, the chairman of the board of management, presided, and gave a sketch of the hospital's history. Sir Clifford Allbutt gave an interesting address upon the growth of pathology and the uses of a clinical laboratory.

Birmingham and Midland Institute.

Sir Frederick Treves has been asked to accept the office of president of the institute for the ensuing year. In the long roll of distinguished men who have held this office the last medical president was Professor Huxley in 1871. Mr. Gilbert Barling, in proposing Sir Frederick Treves, remarked that he would be the first surgeon to hold the office, and was not only a distinguished surgeon, and a speaker of great force, but a widely cultured man, who had written some extraordinarily interesting books.

Antivivisection.

The British Union for the Abolition of Vivisection, following the practice adopted elsewhere, have opened a shop in the chief street of the city for the exhibition of the usual misleading models and diagrams. This aroused some newspaper correspondence, and has been followed up by the visit of Dr. W. R. Hadwen, who delivered an address at Queen's College on Experiments on Animals, Useless and Cruel. The speaker's statements did not pass without protest, and there was considerable disorder. The Research Defence Society is opening a shop in the same street as an antidote to the misleading statements about experiments on animals. The local branch of the society has many influential members under the presidency of Mr. Cary Gilson, the headmaster of King Edward VI. Grammar School.

State Insurance.[1]

Of the 320,000 insured persons in Birmingham 263,416 at the end of the year had selected their own medical men, and 446 had been allowed to make their own arrangements. The 260,000 divided among 272 practitioners on the panel would give an average of about 968 per medical man. But one practitioner has 4164 insured persons on his books, 12 have more than 3000, 28 between 2000 and 3000, and 122 between 1000 and 2000. The total remuneration to the medical profession has been as follows: April quarter, £20,374; July, £21,947; October, £23,048; and for the last quarter it will probably exceed £25,000, as many more insured persons have lately chosen their medical men. The average income has therefore, been about £330, but a few have received over £1000. The number of chemists on the pane is 149. In the first nine months the money in hand was just sufficient to meet the cost of the drug service, but since then the average cost o prescriptions has risen, and some anxiety is fel lest the cost should exceed the available balance As far as the first year of practice is concerned there seems little hope of the floating 6*d.* being obtained by the medical profession. Complaint is made in the *Midland Medical Journal* that the extravagant prescribing of a handful of men has cost the profession no less a sum than £7000.

Typhoid Fever.

Cases of typhoid fever have apparently been traced to the eating of Portmadoc mussels, and owing to the action of the health committee dealers have refused to receive further consignments Birmingham is the largest market for these mussels, and the fishermen have petitioned the Portmadoc council to lay down purifying beds.

A serious outbreak of typhoid fever has occurred at Kenilworth, and been traced to contamination of the drinking water. The Local Government Board has made an inquiry, and the inspector's report is expected shortly. Meanwhile a public safety committee has been appointed to watch over the interest of the inhabitants. The cause of the outbreak—an adit polluting the main supply—has been stopped and the mains have been disinfected. Bacteriological examinations now show that the water is pure.

Jan. 20th.

WALES.

Housing in Monmouthshire

It is nearly 20 years since the late Mr. T. W. Thompson, one of the medical inspectors of the Local Government Board, reported upon the grossly insanitary condition of the urban district of Blaenavon in Monmouthshire. In December, 1911, Dr. Morgan J. Rees again reported to the Board on the same district,[1] and stated that he found that Mr. Thompson's observations with respect to the unsatisfactory state of the sewerage and house drainage, sewage disposal, excrement and refuse disposal, and water-supply might very well apply to the then conditions. Of the housing conditions Dr. Rees had a deplorable story to relate. Many of the houses were of a poor character, badly built in the first instance and allowed to become unwholesome and insanitary through lack of periodical repair. Many cases of overcrowding were found to exist, and bedrooms which had been occupied at night were also occupied in the daytime by workmen working on night shifts. Cellar dwellings and back to earth dwellings, though condemned as unfit for habitation, were fully occupied owing to the absence of better houses. Following upon this report the Local

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[1] The Lancet, Nov. 29th, 1913, p. 1573.

[1] The Lancet, May 18th, 1912, p. 1364.

Government Board has been pressing the district council to make use of the powers invested in it by the Housing, Town Planning, &c., Act, 1909, and to carry out a building scheme. In August, 1912, a definite proposal was made by a member of the district council to erect 50 houses, but the proposal after being deferred from one meeting to another was finally negatived. At one of these meetings it was stated that among 225 houses which had been inspected 40 per cent. had no back doors and 40 per cent. were overcrowded. Failing action being taken by the district council the Local Government Board has now made an order requiring a scheme for the erection of at least 50 houses to be submitted to it by Feb. 26th next, and further requiring that the whole of the houses shall be ready for occupation by Nov. 26th of this year.

The Salary of the Brecknockshire County Medical Officer of Health.

The Brecknockshire county council has recently appointed a medical officer of health and school medical officer at a combined salary of £500 per annum, which sum is to include any expense that the officer may be put to in travelling about the county in the course of his duties. The area of Brecknockshire is 469,281 acres, and there are only three other Welsh counties of greater extent. While the question of the appointment was under the consideration of the county council a communication was received from the Board of Education in which reference was made to the unsatisfactory proposal to pay an inclusive salary out of which the school medical officer would have to pay his travelling expenses. The Board pointed out that in a district like Brecknockshire such an arrangement was open to serious objection, for the greater the efficiency with which the work was done the smaller would be the remuneration of the officer. The desirability for more frequent visitation of the schools in the county made it important that the proposed method of payment should be abandoned, and that the school medical officer should receive a salary commensurate with the responsible and onerous character of the duties to be performed.

The More Adequate Punishment of Defaulting Dairymen.

It has been apparent for many years that the fines that have been inflicted on dairymen convicted of selling milk to which water has been added have been quite insufficient to act as a deterrent to the practice. It has been pointed out more than once by prosecuting solicitors that a dairyman who has even only a moderately sized business can very well afford to pay a fine of £1 or 30*s.* if he sells water at 4*d.* a quart and chooses to run the risk of being found out. It is satisfactory to find that some police magistrates are at last realising that heavier punishment must be inflicted upon dairymen who are convicted of watering milk if the practice is to be stopped. In the Rhondda police court a milk vendor was recently fined £30 and costs for selling milk said to be deficient in butter fat to the extent of 20 per cent., and at the Cardiff police court a farmer who had given a warranty with milk sold by him to a milk vendor was fined £20 and costs for a similar offence.

West Wales Asylum.

The West Wales Asylum at Carmarthen, which serves the counties of Cardigan, Carmarthen, and Pembroke, has accommodation for 600 patients, but for some time the need for enlarging the institution has been apparent, and at the end of 1913 there were in the asylum as many as 724 patients. Difficulty is being experienced at Carmarthen, as at other asylums in the country, in obtaining junior medical officers. A salary of £180 per annum, with four yearly increments of £10, has failed to attract any candidates for a vacant post. The joint committee has therefore decided to offer £200, rising to a maximum of £240 per annum.

Jan. 20th.

SCOTLAND.

The Annual Dinner of the Royal College of Physicians.

THE annual dinner of the Royal College of Physicians of Edinburgh was held on Friday evening, Jan. 16th, at the hall of the College, Queen-street, Edinburgh, Dr. Graham Brown, the President of the College, being in the chair. Some 300 Fellows and their guests were present, the latter including a large number of representative public men in many professions. It was an understood thing that the annual dinner this year would be the occasion of making a more or less public pronouncement with regard to a new and great institute for medical research which has been projected by the Royal College of Physicians, the Royal College of Surgeons, and the University of Edinburgh, with the substantial assistance of the Carnegie Trustees, and the opening speeches were very brief in order to allow time for addresses on the main theme by Sir William Turner, Principal of the University of Edinburgh, and Sir Clifford Allbutt, Regius professor of physic in the University of Cambridge. Dr. Graham Brown proposed in happy terms the toast of "The Imperial Forces," which was replied to by the General Officer Commanding-in-Chief (Scottish Command), who testified eloquently to the advance in the general health of the army during the past 20 years owing to the good work of the medical officers of the services, the spread of knowledge upon sanitary matters, and the spirit of coöperation that had sprung up between the medical department and the other officers of the army. Principal Turner then gave the toast of "Research," and showed step by step how medicine had advanced owing to the achievements of research, and how observation of the finest clinical and scientific sort was as much required now, with the elaborate and perfected assistance offered by our chemical, pathological, and physical laboratories, as ever it had been in the past. He showed how the great new Institute for Medical Research projected immediately for Edinburgh was the natural expression of advancing knowledge, and welcomed the fact that the coöperation of the University of Edinburgh with the Royal Colleges showed a perfect concord of aim between the three bodies, in that all alike were working with the common object of preventing and treating disease. He said that he was permitted to mention that a sum of money would be found by the Royal Colleges and by the University, in which connexion the Carnegie Trustees had been approached, and that the movement, when finally organised, would be associated with the great name of Lister. Professor Clifford Allbutt, in replying to the toast, spoke eloquently of the necessity for medical research to maintain and invigorate the progress of medicine, his address being a comprehensive review of the place that research should occupy in our minds and in the actual course of professional education and life. Professor J. Lorrain Smith having also spoken to the toast, Dr. Alexander Morison proposed the toast of "The Sister Corporations," to which replies were made by the President of the Royal College of Physicians of Ireland, the President of the Royal College of Surgeons of Edinburgh, and the President of the Royal Faculty of Physicians and Surgeons of Glasgow. Dr. C. E. FitzGerald said that he believed his own position as a surgeon-oculist in the Presidency of the Royal College of Physicians of Ireland was unique, but he saw in it a recognition that not only were the diagnoses and observations of ophthalmology every whit as much medical as surgical matters, but that medicine and surgery were one science. Professor J. Ritchie briefly but happily proposed the health of the chairman, Dr. Graham Brown, saying that it was greatly owing to his personality and exertions that in the forthcoming Institute for Medical Research in Edinburgh mutual understanding prevailed between the University and the Royal Colleges, so that "the lion was prepared to lie down with the twin lamb, or, if his hearers preferred it, the lamb was prepared to lie down with the twin lion."

Care of Defective Children in Scotland.

The Scottish Secretary recently received a deputation from a number of Scottish school boards with regard to the fee grant paid in respect of physically defective children. The practice of the Department from 1902 up to March 31st last in calculating the fee grant was to take the same average attendance as for the annual grants; but this method was called to question by the Comptroller and Auditor-General on the ground that it was not legally justified, and the Department has been advised that in future the grant should be calculated on the average actual attendance and not as hitherto, on a basis of 50 for each class. The deputation wished that the *status quo ante* in the method of paying the fee grant should be preserved for the current year, and that thereafter payment might be made by a suitable capitation grant. The chairman of the Govan school board explained that seven of the boards would suffer annually a loss of over £5000 in consequence of the change if no provision were made for payment on a more liberal scale, and that not only would there be keen and universal dissatisfaction, but boards which had not as yet embarked on this type of work would be discouraged from doing so. The Secretary for Scotland, in reply, said that the Scotch Education Department was not to blame in the matter in the least. He was able to say that they had a new arrangement with the Treasury, whereby the grant for defective and epileptic children in special day schools or classes under Article 22–11 (a) of the code should be fixed in future at such a sum as together with the fee grant of 12*s*., and any other additional grant paid under Section 17 (11) of the Education (Scotland) Act, 1908, would amount to £6 per pupil in average attendance. As regarded the similar grant to residential institutions, they agreed that the grant should be fixed at £11, inclusive of fee grant and additional fee grant.

Needs of Argyllshire under the National Insurance Act.

A meeting was held last week in Oban of representatives of the district committee, parish councils, Oban town council, the school board, and the North Argyll Medical Association to consider the information to be supplied to the Highlands and Islands Medical Service Board. Among the suggestions put forward was a proposal for the erection of a central isolation hospital for the district and the subsidising of the Oban Cottage Hospital, so as to enable the managers to admit non-infectious cases where constant attention was necessary, and also maternity cases. A nurse was recommended for Kilbrandan and Kilchattan, Kilninver and Kilmelford, Benduloch and Dalmally, and an additional nurse for Oban. It was further suggested that grants should be made not only for the nurses already established, but also for new nurses, and that a grant of £500 should be made to each local nursing association. It was considered desirable that some sort of scheme should be formulated whereby medical attendance could be provided at a low uniform rate for households where the head of such household does not pay income-tax. It was also suggested that there should be a dentist to visit the various schools in the district, and that a fund be established for consultation in certain cases. It was further proposed that the doctor in each district should have charge of the medical inspection and medical treatment, so far as possible, of the school children in his district. It was recommended that a cycle allowance for nurses be made, and that the Connal Ferry railway bridge ought to be opened for ordinary vehicular traffic to enable patients in Benduloch to be brought within easy distance of the doctors' in Oban and Taynuilt. It was further recommended that each parochial medical officer should have a house provided, and that a fund should be instituted for superannuating parochial medical officers who, on account of age or infirmity, are no longer fit for their duties. Additional doctors were recommended, one in the immediate vicinity of Kilchrenan, and one at Benduloch. It was proposed to put doctors and nurses in direct telephone communication, and it was thought advisable that all hospitals should be in direct communication with the doctors thereof. The telegraph services were also in many cases considered insufficient, and in view of the threatened withdrawal of postal facilities at Bonawe, it was pointed out that such withdrawal would seriously interfere with the medical service at Bonawe and district, where there is a large working population. It was suggested that the telegraph line should be extended from Kilninver to Kilmelford, and that Lochawe should be either cabled or wired to allow telegraphic communication between Kilchrenan and Port Sonachan on the other side of the loch. A motor ambulance for the removal of patients to hospitals and sanatoriums, it was pointed out, would be of great service to all the districts situated on the mainland. Truly the National Insurance Act is far-reaching in its effects!

Working of the National Insurance Act in Aberdeen.

Insured persons in the city of Aberdeen number 54,000, and there are now 65 doctors on the panel. These have been paid the sum of £16,000 for the year. Only 350 insured persons gave notice of their wish to change their panel doctor, and only four doctors requested that patients should be dropped from their lists, the patients thus discarded numbering only five. During the year 250 cases of phthisis have been dealt with in Aberdeen; there has been an average of 40 persons receiving treatment in institutions, the average length of residence being four months. In a number of cases work has been resumed with the disease arrested, but better results are looked for with earlier notification. The Insurance Committee and the Friendly Societies have worked cordially together, and the Act is apparently popular with working men. In the county of Aberdeen there are 40,000 insured persons, the total for Aberdeenshire thus working out at approximately 94,000.

Inverness-shire Sanatorium partly Burned Down.

On the night of Jan. 14th the greater part of the Inverness-shire Sanatorium for Consumptives, near Fort Augustus, an institution working under the National Insurance Act, was destroyed by fire. At the time the fire was discovered, about 7 o'clock, the patients were in the dining-room. The fire spread with great rapidity, and in less than an hour the sleeping quarters, bathrooms, a drawing-room, and part of the dining-room were destroyed. The total loss is estimated at about £1000. The sanatorium was erected some years ago, and accommodated about 24 patients.

IRELAND.

"*Medical Advisers*" *and the Medical Profession.*

SINCE the Irish Insurance Commissioners last summer appointed a number of medical practitioners at fixed salaries to provide certificates for insured persons demanding benefit, the practitioners who accepted such posts have been generally disapproved of by the profession as a whole. This was not merely because it was felt that their acceptance of office presented a solution of the certification question unsatisfactory to the profession, but because their duties entailed the visiting and examination of patients in the care of other medical men. In many cases very strained relations resulted, some of the advisers being so rash as to criticise adversely to the patient the diagnosis and treatment of the medical attendant. It is hoped, as has already been announced in THE LANCET, that the dispute between the medical profession and the Insurance Commissioners concerning certification may soon be amicably settled. The Irish Medical Committee has, therefore, at its last meeting been considering the attitude that should be adopted toward the "medical advisers" both at present and after a settlement is made. The Committee has come to the decisions expressed in the following resolutions:—

> That the Irish Medical Committee, in hope of a speedy settlement of the certification question being arrived at between the Irish Insurance Commissioners and the medical profession, is of opinion that, pending such settlement or failure of the present negotiations, the existing arrangements of the Commission for obtaining evidence of sickness benefit should be acquiesced in by the medical profession, and that pending such settlement or failure of the negotiations no professional interference should be displayed toward the "medical advisers."
>
> That in the event of a settlement of the certification question satisfactory to the Irish Medical Committee being arrived at, the Committee will use its influence to prevent any professional interference being displayed toward the "medical advisers."
>
> That the Insurance Commissioners use their statutory powers and influence to prevent Friendly Societies from penalising any doctors who have remained loyal to the majority of their colleagues.

The Allan A. Ryan Hospital.

Some three years ago the corporation of Dublin leased their isolation hospital on the Pigeon House Hall at a nominal rent to the Women's National Health Association, to be used as a hospital for tuberculosis. It contained some 50 beds, and over a thousand patients have been treated. For the most part the patients treated have been in the secondary stage of pulmonary phthisis. As part of its general tuberculosis scheme the corporation has now resumed possession of the hospital, which is to be kept as a home for advanced cases of tuberculosis. Last Monday at the Mansion House the Countess of Aberdeen handed over to the Lord Mayor formal possession of the institution.

County Down Practitioners and the National Insurance Act.

A meeting of the medical practitioners of North Down held in the Medical Institute, Belfast, on Jan. 12th, decided, as they were requested, to continue on the panel until March 31st, 1914, which is the end of the financial year, the new terms to come into force on that date. A resolution was passed:—

> That we regret that whilst the medical men on the panel for North Down have honourably carried out their contract with the National Insurance Commissioners this year, the Commissioners have failed to fulfil their part of the contract, as they have not yet remunerated any of the medical men for their services in giving certificates to the insured persons.

A motion was also passed urging that insured persons who have not selected a medical man on the panel should be distributed equally among the medical men in the same dispensary district. At a meeting of the members of the County Antrim Local Medical Committee, held in the town hall, Ballymena, it was decided, at the request of the Irish Medical Committee, to renew the agreement with the Insurance Commission until March 31st next.

Derry County Infirmary Salaries.

The committee of the Derry Infirmary advertised for an assistant medical officer, at a salary of £80 per annum, with apartments, and it was announced at a meeting of the committee on Jan. 13th that there were no applicants, the excuse being the demand for junior practitioners in England to work the National Insurance Act. It was then decided to offer a minimum salary of £90, and not exceeding £100, and to appoint a subcommittee to communicate with some of the medical schools with a view to obtain applicants.

The late Mr. J. Gorman, Bangor.

On Jan. 12th, at a meeting held in Bangor, co. Down, it was decided to erect a memorial to the late Mr. J. Gorman, L.R.C.P. & S. Edin., to take the form of an enclosed grave and tombstone in the cemetery and to endow a free bed in the Bangor Hospital, with which Mr. Gorman had been so closely associated since it was built.

Epidemic of Measles in Armagh.

There has been recently a very serious epidemic of measles in Armagh and district, especially among children, and in several cases there have been as many as four deaths in one house. The schools have not yet been reopened.

Jan 20th.

PARIS.

A Leguminous Regimen in Diabetes.

Dr. Marcel Labbé has urged before the Académie de Médecine the claims of a dry vegetable regimen for diabetics, particularly those threatened with acidosis and coma. He considers this an advance on von Noorden's oatmeal cure, which is not borne equally well by all. Dr. Labbé is particularly concerned over the danger of albumin for diabetics, and he entirely forbids meat. He causes each patient to take daily 300 grammes of dry vegetables, 150 grammes of butter, from 3 to 6 eggs, and 3 to 6 aleurone rolls. He allows from 3 to 4 glasses of red wine and some green vegetables. For the customary dry vegetables—peas, haricots, beans—may be substituted soy beans, which are very rich in albumin and poor in starch, but they are difficult to cook. This regimen is usually preferred by the patients to one of oatmeal and milk; it is more satisfying and causes neither constipation nor diarrhœa. The treatment must be followed at least three days—often much longer. The glycosuria does not rise higher than with an ordinary mixed diet in which the carbohydrates have been reduced to the inevitable minimum. Occasionally it falls even lower, and sometimes it disappears completely, when the previously named diets have remained ineffective in that respect. Dr. Labbé thinks that the starch, as well as the albumin, of dry vegetables is better assimilated in diabetics than those of other foods. This regimen is said to overcome the nitrogenous denutrition and emaciation, to cause the disappearance of the insomnia and anorexia, and to obviate the danger of coma. It diminishes urinary acidity and diaceturia and affords a minimum of acetonuria. These results appear to be dependent on the peculiar chemical properties of leguminous albumin and starch, assimilation of which seems to take place under conditions different from those obtaining for cereals.

Institutes of Puericulture.

The directorate of the Assistance Publique has ordered the establishment of 11 institutes of puericulture in the hospitals. Two years ago such an institute was established by a decree of the Prefect of the Department of the Seine, acting on a resolution of the general and municipal councils, at the Hospice des Enfants Assistés in the service of Dr. Variot. The decree was, however, quashed by the Conseil d'État as not complying with legal requirements. On the other hand, as courses in infant hygiene and infant consultations exist in a large number of hospitals, the administration of the Assistance Publique was unwilling to accept this unique institute, which would seem to enjoy a kind of monopoly and which it had had no direct part in initiating. The new decree establishes 11 such institutes, which are chiefly, however, rather a transformation of the infant consultations already existing in the obstetrical services of the hospitals, with the exception of that of Dr. Variot, which is a true pædiatric clinic. These institutes are to be opened in the services of Professor Ribemont-Dessaigne at the Beaujon, Professor Bar at the Tarnier clinic, Dr. Doléris at St. Antoine, Dr. Variot at the Hospice des Enfants Assistés, Dr. Bonnaire at the Maternité, Dr. Boissard at the Lariboisière, Dr. Lepage at the Boucicaut, Dr. Tissier at the Charité, Dr. Potocki at the Pitié, Dr. Demelin at St. Louis, and Dr. Bouffe at the Tenon. On the medical and obstetrical *chefs de service* is imposed the duty of the teaching and the charge of the infant consultations. No special remuneration is attached thereto. The *chefs de service* charged with the control of an Institute of Puericulture are to make to the Administration a yearly report on its working, the number and dates of the consultations, the number of children examined, the number of students who have taken the course, the quantities of milk distributed, and so forth.

The Campaign against Alcoholic Beverages.

Under the name of "L'Alarme" there has been established in Paris an Anti-alcoholic Committee to organise in the principal towns of France before the next election a series of meetings against the use of alcoholic drinks. This committee, presided over by M. Henri Schmidt, a deputy for the Vosges, has received the patronage of many eminent politicians from varying localities. Without taking any active part in the political contests the committee will call upon the electors to insist that their respective candidates shall make necessary anti-alcoholic reforms a part of their programmes. The first meeting was held on Jan. 18th at Nancy, and M. Henri Schmidt and Dr. Lucien Jacquet, physician to the Hôpital St. Antoine, were among the speakers.

Antityphoid Inoculation.

Dr. Lajoanio, médecin-major of the 7th Battalion of Chasseurs Alpins, has presented to the Académie de Médecine a communication of great significance regarding the polyvalent vaccine prepared by Professor Vincent at the School of Military Medicine at Val-de-Grâce. This regiment for 18 months under the torrid sun of Morocco had to sustain repeated attacks by day and night from the Moroccan troops. All around malaria, dysentery, and typhoid fever were decimating the troops. The first two of these diseases did not spare the 7th Chasseurs, but not one of its vaccinated men took typhoid fever, and further proof that the vaccination was the effective agent in prevention lies in the fact that the only two men who contracted the fever were two who had not been vaccinated because, as they had had typhoid some years before, vaccination was not considered necessary in their case. This study further shows that the strains of typhoid bacilli in Morocco are of particular virulence, for the instances in which military men and civilians who had previously had the disease contracted it afresh in a severe form in Morocco were numerous. Typhoid fever raged furiously in Morocco during 1912, for it attacked 170 per 1000 among the unvaccinated. The experience shows the value of Vincent's vaccine, which is a polyvalent vaccine prepared from many strains of bacilli.

The Treatment of Leishmaniasis by Ehrlich's Method.

At the Société de Dermatologie Dr. Jeanselme reported the good results obtained from salvarsan in a patient attacked with Biskra boils. He was a young assistant medical officer who had been on campaign for a year in the oases of Southern Algeria. He contracted the disease at Biskra in September last and returned to France on Oct. 10th. The first boil made its appearance from 12 to 15 days later. In two months ten new foci had developed. As this disease is undoubtedly due to leishmaniasis, and as M. Nicolle and M. Manceau had already obtained encouraging results in that disease with arsenical treatment, M. Jeanselme, after satisfying himself that the Wassermann reaction was negative, gave three intravenous injections of neosalvarsan and two of salvarsan. A complete cure ensued in 20 days. This is the most energetic treatment yet found against this disease.

Jan. 19th.

VIENNA.

End of the Conflict between the Sick Clubs and their Medical Officers.

AFTER having continued for more than a year the conflict between the Austrian Krankenkassen, or sick clubs and friendly societies, on the one hand, and their medical officers on the other, has come to an end which shows no victors nor vanquished. The chief point of discussion was lately the dismissal of those practitioners who had accepted positions as medical officers appointed by the clubs in spite of the boycott proclaimed in regard to these appointments by the organisation of practitioners in Lower Austria. The clubs had procured their services by offering high salaries, and had had to make long contracts with them. Now the united medical profession has demanded their dismissal as a protection against the importation of non-unionists in any similar dispute which may take place in time to come. After protracted negotiations, which were broken off more than once, for both parties were indisposed to give way on this particular point, the efforts of the Government brought about a compromise acceptable to both sides. The non-unionist medical officers might remain, but those who had refused to work on the old conditions had all to be reappointed, so that the sick clubs have now to pay not only their former medical officers, but also the substitutes whom they had employed at great expense, although the services of these latter are now absolutely superfluous. Furthermore, 200 new appointments have to be made within two years, and the remuneration will be either on the basis of so much per patient in small districts with less than 1000 members or for a fixed sum which must average at least 5 kronen for each insured member, surgical operations and midwifery to be extras. The contracts will be made under the supervision of the above-mentioned medical unions, with due consideration for the kind of work in the respective districts. The control of the medical work will be effected only by medical men—hitherto it has not been always so—but the controlling agents shall not be entitled to alter the treatment or to dismiss a patient from the sick list unless the regular medical attendant takes a similar view of the case. Altogether, the profession although it has not accomplished all its intentions, may be well satisfied with the results obtained, and there is no doubt that this first successful outcome of a serious conflict between a large medical body and the sick clubs will have a most beneficial effect on all future disputes, as showing the Krankenkassen that their authority has its limitations.

Sexual Diseases amongst University Students.

The Austrian Society for Combating Sexual Diseases has made a remarkable advance in its endeavours to eradicate the scourge of sexual diseases by establishing a special ambulatorium at which students of the Vienna universities are the only patients. The attention of the principal promoters of the objects of the society was drawn to the fact that so many men engaged in the "free" vocations were victims of gonorrhœa and syphilis, which they had acquired between the ages of 20 and 25 years, while they were students at the university. They are often ashamed or afraid to go to a regular practitioner for treatment, preferring to rely upon the knowledge of some friend or the advice of some quack to cure their illness. Therefore the society at once started the above-mentioned ambulatorium with a competent specialist at the head of it, and the recently published report for the first seven months of its existence shows that 482 patients applied for advice and made 3968 attendances. There were 31 cases of syphilis, 268 of gonorrhœa, 12 of soft sore, and the remainder either suffered from some other complaint or had no illness at all. The attendances at the ambulatorium increased up to as many as 59 patients per day. In the later months the ambulatorium was also attended by students of "gymnasia," or what we call Latin schools (boys from 10 to 18 years); from these schools there came to the institute about 39 patients aged between 15 and 19 years. Even these figures show that such an institute is a necessity here, for it must be kept in mind that the real number of affected youths and university students is considerably in excess of the figures given above, because it is not yet generally known among them that there exists a special ambulatorium where help and advice are provided for them in a spirit of philanthropy.

Jan. 19th.

ITALY.

Professor Murri.

A GREAT demonstration was made to Professor Murri at his lecture to inaugurate the new academic year. The ceremony was one of especial importance as the first public appearance of Professor Murri since his serious illness last summer. The hall was packed with an audience of students of all the faculties of the university, professors, ex-pupils, and the notabilities of the city of Bologna. His entrance was greeted with a triple round of applause and addresses of congratulation were offered, first by one of the medical students, then by one of the professors of the Medical Faculty, and lastly by the President of the Association of Medici Condotti. Professor Murri, who appeared in the best of health, after thanking his audience for his reception, gave a brilliant address, in which he emphasised the undiminished importance of the inductive method in medicine.

The Agitation of the Doctors of the Hospitals in Rome.

Professor Bastianelli, as president of the section of Medici Ospedalieri in Rome, was able to announce to a crowded meeting last month the satisfactory solution of a number of the questions which interest in the closest manner the welfare of the doctors of the Roman hospitals. A commission nominated by the section to confer with the Royal Commissary, Comm. Gajeri, had come to an agreement with him on a number of important points, such as the right of the doctors to treatment in hospital and their claim to a day's rest each week. On the much vexed question of the tax upon application for appointments the Royal Commissary had expressed his willingness to reduce the amount from lire 200 to lire 10 or 15, but the meeting refused to accept this concession, preferring to contest the legality of the imposition of a tax at all.

Foreign Doctors in Italy.

The council of the federation of the Ordini dei Medici at a recent meeting discussed the ever recurrent theme of the foreign doctors. The Order of Porto Maurizio raised the question of the facility with which foreign doctors could obtain the *rivalida* of their diplomas, and hence the right to practise freely in Italy. The council decided to call once more the attention of the medical faculties of Italy to the necessity of being very severe and careful in the concession of the *rivalida* for the due protection of the Italian medical profession, and especially in defence of the dignity of Italian science.

Medical Biography.

The Istituto Micrografico Italiano is bringing out under the auspices of the Società Italiana di Storia Critica della Medicina e delle Scienze Naturali a series of lives of celebrated Italian physicians and naturalists. The first volume, upon the life and work of Bartolomeo Eustachi, has just been issued. It is a small book of 80 pages and is published at 1 lira. Others promised include Valsalva, Morgagni, and Aulus Cornelius Celsus.

Jan. 15th.

SOUTH AFRICA.

Medical Department, South African Defence Force.

Regulations providing for a Medical Department of the South African Defence Force have just been promulgated. The Department is to consist of three sections, the Permanent Force Section, the Citizen Force Section, and a Voluntary Aid Section.

The Permanent Force Section is to consist of a staff officer for medical services at defence headquarters, a medical officer in charge of a medical training school, staff medical officers, including medical staff quartermasters and subordinate staff—viz., hospital staff sergeant-majors, hospital staff sergeants, hospital sergeants, hospital corporals, and hospital orderlies. Officers of the Medical Department are to be members of the Permanent Force (staff), and will be graded as first, second, or third grade staff officers with the pay assigned to those grades, and rank as follows: First grade, major or lieutenant-colonel; second grade, captain or major; third grade, lieutenant or captain. The staff officer for medical services may also be required to undertake the duties of an assistant medical officer of health for the Union on such conditions and at such rate of emoluments as the Government may decide. Medical staff quartermasters will be first class or second class with pay accordingly. Those of the first class are to hold the rank of captain; of the second class the rank of lieutenant. The subordinate staff will be recruited as far as practicable from the non-commissioned ranks of the Permanent Force, any of whom below the rank of sergeant, after undergoing a prescribed course of instruction in medical duties, may be required to serve for one year as hospital orderlies, one year as hospital corporals, making a total of two years in the Medical Department, and three years as hospital sergeants. Appointments as hospital sergeant-majors will be made from those hospital sergeants who have passed a qualifying examination for the higher appointment, and these will have the rank of warrant officers. Hospital orderlies and corporals who are returned to regimental duty, at the conclusion of their periods of appointment as such, may receive medical staff pay (non-pensionable) at the rate of 6*d.* a day so long as they hold regimental rank not higher than corporal and provided they come up for, and qualify annually at, a refresher course of medical training.

The scheme sounds well enough, but is not difficult to criticise. First, the force is to be under a lay officer, the Inspector-General, who, although doubtless guided by the staff officer for medical services, cannot be expected to appreciate medical needs or requirements, and apparently even his adviser may at any moment be taken away from him to act as an assistant medical officer of health for the Union. In the second place it must to great extent be a paper force, for the Permanent Defence Force are really mounted policemen scattered throughout the frontier districts of the Union. At any rate, the five regiments are so broken up into small units that there will seldom be any considerable aggregation of its members except in time of civil commotion or war—certainly not enough at any time to warrant the establishment of a military hospital for the sick and the training of orderlies and hospital officers of different grades.

The citizen force section is apparently "on its own" in each district, and is directly under the Commandant General, who presumably will be advised also by the staff officer for medical services. It provides for an assistant director of medical services being appointed for each military district or for a group of military districts to take command and supervise the technical training of the *personnel* and units of the Citizen Force Section detailed for medical services in that district or group of districts, and to advise as required upon all matters connected with the medical and sanitation services of the Coast Garrison and Citizen Forces in that district. Deputy assistant directors of medical services may be appointed for any military district or subdivision thereof as sanitation officers, and to assist generally the assistant directors in their duties. Assistant directors may be granted the rank of lieutenant-colonel, deputy assistants the rank of major. Except in case of appointments as assistant and deputy assistant directors of medical services, first appointments to commissions as medical officers will be made to the rank of captain. In no case is a person to be eligible for appointment as a medical officer unless he is registered under one of the Medical Acts in force in the Union and is between the ages of 21 and 35 years. Within two years of first appointment a medical officer will be required to attend at the medical training school for a period of one month, during which a course in the following subjects will be undergone: the South Africa Defence Act and regulations framed thereunder and the Union military discipline code, the duties and powers of medical officers, medical organisation, administration and equipment, map-reading and elementary tactics, military sanitation, and Part 4 Royal Army Medical Corps Training. Promotion examinations in other than professional subjects will have to be passed before captains can be promoted to majors, and promotion to the rank of lieutenant-colonel will only be given when there are vacancies on the establishment of that rank, and will be made by selection from the rank of majors who have qualified for that rank by examination. Any medical practitioner is eligible to serve in the Reserve of Officers without having previously held commissioned rank, and on appointment he may be given such rank not below the rank of captain as may be considered suitable to his position and standing. Officers will draw the pay and allowances of their rank as prescribed in the regulations for pay and allowances, Active Citizen Force. During periods of continuous training and on such other occasions as may be authorised by the Minister, medical officers may draw, in addition to any pay or allowance due to them under those regulations, a medical staff allowance at the rate of £1 10s. per diem, presumably to cover the cost of a locumtenent. During attendance at special courses at the medical training school or elsewhere medical staff allowance at one half of this rate may be granted, provided the prescribed certificates are obtained. The provisions generally for the Citizen Force section are very elaborate and may or may not prove workable, but the general opinion that is held amongst those competent to judge is that they are unsuitable for South Africa.

Appointments in Permanent Force: Medical Department.

Dr. P. G. Stock, formerly assistant medical officer of health of Johannesburg, has been appointed Staff Officer for Medical Services, with the rank of Major. Lieutenant-Colonel G. H. Knapp, formerly principal medical officer, Cape Colonial Forces, has [illegible] Colonel in the Medical [illegible] rce, whilst Surgeon- [illegible] in the Cape Mounted Rifles, and Staff-Surgeon H. R. Brown, of the Natal Police, are appointed Captains in the same department.

Dec. 15th, 1913.

Obituary.

HENRY ALBERT REEVES, F.R.C.S. EDIN.

THE death occurred on Jan. 16th, at the age of 73, of Mr. Henry Albert Reeves, late of Grosvenor-street, London, W., formerly assistant surgeon at the [illegible] to the Royal Orthopæ[illegible] the Hospital for Wo[illegible] Hospital for Women and Children, Shadwell.

Mr. Reeves's best work, both general and special, was done some years ago, and his name, save to those acquainted with his writings, is now no longer familiar. But in his day he was a well-known operating surgeon. His "Human Morphology," published in 1879, was said by the *Saturday Review* to be the "finest book ever published on the subject in this or any language," and his "Bodily Deformities" is also a notable work. In operative surgery (he was ambidextrous) he attained to high proficiency, and when he finally concentrated on orthopædics, resigning all other appointments to do so, he was recognised as an authority on the subject. But differences of opinion at the Royal Orthopædic Hospital as to selling the site and amalgamating with the Orthopædic Hospital in Great Portland-street, of which he strongly disapproved, led to the severing of his connexion with this institution, much to its loss, as, apart from his skill, he was greatly loved by his patients, especially those of the poorer classes.

A personal friend writes: "Mr. Reeves was always a lover of books, and gradually he abandoned himself almost entirely to their study. With an immense library, in five different languages, to which he was constantly adding, few scientific and thoughtful books that were published did not come under his ken, and in his search for truth possibly his investigations covered too vast a field for his own advantage. But his erudition was enormous, and latterly he had devoted his whole attention to a scientific study and sifting of all the religions of the world, of which he probably knew as much as any man living, and his book on the subject was almost ready for publication when it was stopped by the illness that attacked him a year ago and ended fatally last week."

Mr. Reeves was married to the well-known novelist, Helen Mathers.

ALEXANDER S. L. NEWINGTON, M.B. CANTAB., M.R.C.S. ENG.

ON Jan. 17th, while driving his car near Ticehurst, Sussex, Dr. Alexander Newington met with an accident and sustained injuries which were rapidly fatal. He had put the brakes hard on to avoid colliding with a motor-dray and the skid threw him from his seat into the road upon his head.

Alexander Samuel Lysaght Newington was born in 1846, the son of Dr. Samuel Newington. His grandfather was the founder of the well-known private asylum for the insane at Ticehurst, and his father succeeded in due course to its management. He was educated at Bromsgrove School and as a lad went to India as a planter, but after five years [illegible] won many prizes. Proceeding to St. Thomas's Hospital he qualified as M.R.C.S. in 1874, and became house physician to the famous Murchison. In the following year he took the degree of M.B. Cantab., and settled down in a village practice in Oxfordshire. About the same date he married Gertrude, eldest daughter of the late Dr. Robert Barnes, one of the leading obstetricians of that day.

A few years later, in the early "eighties," Dr. Alexander Newington returned to Ticehurst as physician to his father's asylum, and from that time until his death he remained associated with it. At one time a brother, Mr. Theodore Newington, was also on the medical staff there, but latterly Dr. Alexander Newington and his cousin, Mr. H. F. Hayes Newington, have been the joint proprietors of, and physicians to, the asylum.

Dr. Alexander Newington had been an enthusiastic motorist since the earliest days, and was among the first medical men in this country to own a car. His interest in this subject was always keen, and he had a thorough knowledge of the mechanism and design of cars, acquired in the days when road repairs were an almost daily necessity. He was a most experienced driver. He contributed little to professional literature, but his hereditary bent towards alienism was shown by his choice of a subject for a graduation thesis—puerperal insanity. Mrs. Newington survives him; there is no issue of the marriage.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. E. Ponfick, of Breslau, Privy Medical Councillor.—Dr. E. Cohn, of Frankfort, Privy Medical Councillor.—Dr. T. H. Knoll, of Aix-la-Chapelle, Sanitary Councillor.—Dr. John G. Cecil, formerly professor of medicine in the University of Louisville.—Dr. A. Tesson, formerly professor of chemistry and toxicology in the Angers Medical School.—Dr. E. Baudrimont, formerly surgeon to the Bordeaux hospitals—Dr. Gustav Pfalz, *docent* of ophthalmology in the Medical Academy of Düsseldorf and president of the Rhine Medical Association, aged 55.—Dr. Hans [illegible]
medicine in the University of [illegible]
Thorn, Privy Medical Councillo[illegible]
German Medical Association, a [illegible]

the tissues puts out of court the more radical treatment, which will be required later in the event of the survival of the patient.

I am, Sir, yours faithfully,
Plymouth, Jan. 17th, 1914. C. HAMILTON WHITEFORD.

To the Editor of THE LANCET.

SIR,—I am very much interested in everything that my friend Mr. Edred Corner writes, and this is especially so with regard to his paper in THE LANCET of Jan. 10th. I must say that on this occasion I am surprised to find that he has had such good results in the treatment of gastric and duodenal perforation by the method he describes. However, I know that there are very many ways of attaining the same end, and though I do not propose to try his method I shall watch with great interest the results in his own hands.

There is just one sentence, however, to which I must draw attention, but only to sound a note of warning. Mr. Corner says, "Fears of more than a temporary and brief gastric fistula may be dismissed." In my experience gastric and duodenal fistulæ are very serious complications indeed, and I have seen several cases in which they have rapidly led to the death of the patient. As this method is put forward as especially useful for those with limited experience in surgery I think it most important to draw attention to this aspect of the matter, because, though Mr. Corner has been successful in a series of cases (he does not say how many), I feel quite confident that if this method is at all widely practised it will be followed by many fatalities from gastric and duodenal fistula.

In his summary Mr. Corner says that in the hands of experienced and facile operators the excision of the ulcer followed by suture of the wound, &c., may be better and result in the recovery of the patient. This rather presupposes that excision of the ulcer is a necessary part of the operation for perforation, but this is certainly not so, and in my series up to date (76 cases of gastric and duodenal perforation with 15 deaths) I have only twice excised the ulcer during the course of an operation for perforation.

Closure of the ulcer by suture may take more time than the method which Mr. Corner describes, but I shall be very much surprised if it does not turn out to be by far the safer method, and therefore attended with a smaller mortality.

Most writers on this subject speak of the need of saving time in the operation, but I always feel that it is much better to spend a little extra time on the operating table than to express regrets at the post-mortem table. I doubt if a patient often dies because of the extra time spent in careful suturing, but I am quite sure that they very often die for the want of care in the performance of emergency operations.

I should like very much to know how long it takes Mr. Corner to do this operation. I must confess that the treatment of a simple perforated gastric or duodenal ulcer with irrigation of the peritoneum—in which I believe—takes me 30 or 35 minutes, while in those few cases in which I think it wise to perform gastro-enterostomy at the same time the operation occupies from 45 minutes to an hour, and in difficult cases perhaps a quarter of an hour longer. I am, Sir, yours faithfully,

Newcastle upon Tyne, Jan. 12th, 1914. G. GREY TURNER.

THE STERILISATION OF MILK AND ALLIED QUESTIONS.

To the Editor of THE LANCET.

SIR,—It would be a very regrettable circumstance if the sweeping statements expressed by Dr. R. Vincent in THE LANCET of Jan. 17th on the above subject were to be accepted as representative of present-day medical opinion. In his letter he refers to the "appalling" results of feeding children on cooked milk.

As chairman of the Association of Infant Consultations and Schools for Mothers—an association to which some hundred local societies are affiliated—I am in constant touch with a large number of medical officers and superintendents of centres to which a very considerable number of healthy infants are brought for advice and treatment, and I may say that the vast majority of these medical men and officials hold views diametrically opposed to those of Dr. Vincent. We receive reports also from a very large number of infant consultations which are not affiliated to the central association, and some of the best results of which we have records are from those consultations at which desiccated milks are exclusively used for the artificial feeding of infants, and desiccated milks are milks which have been submitted to a somewhat severe cooking process. In Marylebone the infant death-rate has fallen in 13 years from 190 per 1000 births to well below 100, and during this period, owing to the active campaign carried on by the municipal authorities and the local health society, the use of unboiled milk has been reduced almost to the point of extinction. The fall in the tuberculosis rate has been equally sensational. Could these results be if cooked milk were the unmitigated evil Dr. Vincent would have us believe?

I am at present engaged in re-examining the old cases who have passed through my infant consultations, some as long ago as 1906. I am quite surprised to see how favourably the children who were reared on boiled milk compare with the average London child of the same age; and, indeed, with many of the exclusively breast-fed children of the same age who also attended at the consultations.

Personally, I hold no brief for cooked milk. When good fresh milk can be guaranteed I see no reason why it should be boiled, and I frequently order it for patients who can afford to buy it. But I can distinguish no difference, judged by any criterion with which I am acquainted, whereby infants fed on raw milk can be distinguished from those fed on cooked milk, although I could very easily pick out a group of selected cases from either class which might be made to prove the case which ever way I desired.

In view of the discovery of the vitamines, and in view of the great progress recently made in the fundamentals of nutrition, it surely is an anachronism to write vaguely about "mysterious diseases" in children which baffle their own doctors, but which are at once explicable to Dr. Vincent in the terms of cooked milk. In America, the home of certified milk, not only are the original and most fervent pioneers of this movement now converted to pasteurisation, but they are among the most active agitators for the pasteurisation even of certified milk of the highest grade. In conclusion, I would quote a translation from Professor Porcher's recent book "Le Lait Desséché" (p. 86): "At a certain infant clinic in Belgium the infant mortality rate was 260 in 1901. In the year 1903 sterilised milk was introduced, and the rate fell to 150. In 1907 trained health visitors were employed and the rate further fell to 60 per thousand. In the year 1908 dried milk was substituted for sterilised milk and the rate fell to 34 per thousand." Facts of this kind—and, thanks to the work of infant consultations, they are daily becoming more common—are more eloquent than pious opinions.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 15th, 1914. ERIC PRITCHARD.

To the Editor of THE LANCET.

SIR,—May I add my humble experience to the weighty evidence presented by Dr. Ralph Vincent in favour of the raw-milk feeding of infants?

My attention was first drawn to the subject during a very severe epidemic of diarrhœa in Mid-Kent some 24 or 25 years ago. I was then led to suspect that boiled-milk feeding had a good deal to do with the incidence and fatality of the complaint, and ever since have been a convinced opponent of boiled and advocate of raw milk as a diet for both children and adults. Needless to say, I have in consequence been "up against" general professional opinion, and more especially against almost universal medical officer of health opinion, but this I have, though with some loss in fees and credit, to my private entire satisfaction completely disregarded. The improved health following the change of diet has been so immediate and pronounced that usually there has been no need to prescribe anything else, and a single consultation has often sufficed to effect a cure. In no case have bad effects followed, and in no single instance has a previously non-tuberculous infant, in which the raw milk *régime* was carried out with reasonable care, been known by me to have afterwards developed signs of tubercle. It is no small gratification to me to find that Dr. Vincent has been able, at least in part, to supply the rationale of a treatment which I had adopted so long ago on grounds of clinical observation alone.

I am, Sir, yours faithfully,

Stoke Newington, N., Jan. 16th, 1914. I. B. MUIRHEAD.

LISTERISM IN LONDON IN THE "SEVENTIES."

To the Editor of THE LANCET.

SIR,—I have just finished reading the admirable "Life of Lord Lister," by my friend Dr. G. T. Wrench. He speaks of the apathy with which Lister's teaching was received and of the slow progress it made, especially in London. My teacher, Sir Henry Howse, like many great teachers and workers, wrote little, and seldom took part in discussions; further, he is very rarely seen in London nowadays, so that his pioneer work in the introduction of Lister's methods into London is unknown to the majority of your readers and unmentioned by Dr. Wrench.

Sir Henry Howse was appointed assistant surgeon to Guy's Hospital in the early part of 1870; he at once went to Edinburgh, studied Lister's methods, came back, and introduced them into Guy's Hospital in the same year—that is, a year before Lister's address at Plymouth in 1871. In 1871 Mr. Davies-Colley was appointed assistant surgeon; he, seeing the excellent results in Sir Henry Howse's wards, adopted Lister's treatment, as did all the assistant surgeons subsequently appointed. Sir Henry Howse became a full surgeon in 1874, with the care of over 60 patients, so that then all of these and all those in the beds of the assistant surgeons were treated rigidly with Lister's methods. I have recently had a letter from Sir Henry Howse in which he says that in 1867, when he was house surgeon, he began in a small way trying the methods which were published by Professor Lister, then at Glasgow. I think that these facts will, as Sir Henry Howse says, "answer, at any rate as far as one hospital is concerned, the assertion that London surgeons were slow to avail themselves of the advantage of Listerism."

Your readers will, I am sure, excuse the following quotation from Sir Henry Howse's letter. It is of historical interest:—

> In the year 1871 and for the two or three years following ...... Davies-Colley and myself were the only assistant surgeons in the hospital. According to the hospital rules we had the charge of the erysipelas wards, to which all the erysipelas and severe septic cases occurring in the general wards were transferred as they arose. We had sole charge of all these cases as well as of a certain number of beds in the general wards. In the erysipelas wards we had often to do amputations and other severe operations in beds surrounded by most highly infectious erysipelas cases and by severe septic cases such as gangrene and urinary extravasation. It was a discovery, it was a most remarkable phenomenon to us to find that we could operate on these cases in the erysipelas wards with the spray and antiseptic dressings as safely as we could in the general wards or even in private rooms. After this discovery the erysipelas wards rapidly changed their character, and from being deadly wards became almost like the other wards at the hospital. The general wards themselves underwent the same change for the better. I may cite one particular case in my own experience. I took over Naaman Ward from Mr. Cock on his resignation. From the nature of his practice he had always in it a much larger proportion of urinary cases (extravasation and such like, many of them the most offensive possible), and Naaman Ward bore in the hospital an exceedingly bad reputation. I was even advised not to take the ward as I had the choice to take some other. I had, however, by this time firmly established in my own mind the safety of the antiseptic treatment of wounds, and felt convinced that I could make Naaman as healthy as any other ward in the hospital. This was accomplished, and many old house surgeons and dressers must remember that I operated there as freely and successfully as in any other ward.

I am sorry to have troubled you with so long a letter, but I feel your readers ought to know Sir Henry Howse's pioneer work, and will be glad to have this addition to the large amount of information given in Dr. Wrench's book, especially as it softens a little the severity of its indictment against the London surgeons in the "seventies."

I am, Sir, yours faithfully,

Jan. 15th, 1914. W. HALE WHITE.

QUININE POISONING: A PERSONAL CASE.

To the Editor of THE LANCET.

SIR,—Seeing in THE LANCET of Jan. 17th Mr. J. D. Gimlette's account of three cases of poisoning by excessive doses of quinine, it has occurred to me that some account of a similar personal experience may be of interest to the profession. It must necessarily be most egoistical. At 8.30 A.M., Sept. 22nd, 1913, I had occasion to take, for pyrexia and malaise, 10 grains of quinine sulphate. I invariably take this in an effervescing solution which I keep made up in a concentrated solution of 10 grains to the drachm, with citric acid. On this occasion what happened was that I forgot the concentration and helped myself to at least a generous ounce of the solution—i.e., unknowingly I took probably 100 grains of quinine be selected what becomes of the mediocrity of the profession? Are they to compete outside with the State doctors? The choice of an intelligent patient of his own doctor is at least as good as that made usually by a public board on his behalf. In either case a mistake can be made and often is, but it can be corrected much more readily in the former than the latter case.

In the picture Sir John Collie draws of a National Medical Service, it is easy to detect a glamour similar to that thrown on their pictures by confessed socialists when endeavouring to point out the advantages of the socialistic state. Sir John Collie says the changes he proposes will be to many practitioners "highly distasteful." I must reckon myself among that number, but not simply because the changes are "distasteful," but because in my opinion they are bad both for the public and the profession. If I believed in Socialism, that is in the State undertaking everything for everybody, and individual enterprise and independence being relegated more and more to the background, it might be otherwise. As it is, I regard honest competition with one's fellows, with all its drawbacks, as a more honourable position for a medical practitioner than to become a unit in any National Medical Service; and I am of opinion that medical science will be best promoted, and the welfare of the nation best maintained in the future, as in the past, by an independent profession of medicine. I am, Sir, yours faithfully,

Hackney-road, N.E., Jan. 18th, 1914. MAJOR GREENWOOD.

THE TREATMENT OF GRANULAR KIDNEY.

To the Editor of THE LANCET.

SIR,—I regret that owing to my not having been able to get the corrected proof of my letter on this subject[1] returned to the offices of THE LANCET in time for the press an error has crept in. Where the letter (in the second line from the top of the right hand column of page 210) states "in 24 hours the pulse was 94," it ought to read "in 48 hours," &c.—I am, Sir, yours faithfully,

A. GRAHAM-STEWART.

Cliftonville, Margate, Jan. 19th, 1914.

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[1] THE LANCET, Jan. 17th, 1914, p. 209.

ROYAL ANTHROPOLOGICAL INSTITUTE. — The president and council of the institute will entertain Professor Baldwin Spencer, C.M.G., F.R.S., of Melbourne University, at a complimentary dinner at the Café Monico, London, W., on Jan. 27th, at 6.30 P.M.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of directors of this society was held on Jan. 14th, Dr. Rigden, senior vice-president present, being in the chair. Fifteen members of the court were present. Since the last court two of the vice-presidents of the society had died—Dr. Clement Godson and Mr. H. W. Kiallmark. One of the widows in receipt of grants had also died; she came on the funds in 1875, and received in grants the sum of £2300. Her husband had paid in subscriptions £37 16*s*. The sum of £1260 was voted to pay the usual half-yearly grants to the widows and orphans, and £392 10*s*. were voted for special grants to be paid out of the Brickwell Fund. The invested funds of the society now amount to £139,500. Membership of the society is open to any registered medical practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The annual subscription is 2 guineas. Special terms for life membership. Further particulars and application forms for membership may be obtained by applying to the secretary at the office of the society, 11, Chandos-street, Cavendish-square, London, W.

THE NATIONAL INSURANCE ACT.

THE STATE MEDICAL SERVICE QUESTION.

IN delivering the first of a series of lectures arranged by the Faculty of Insurance, dealing with various aspects of National Insurance, Sir John Collie took as his subject "The Medical Profession and National Insurance," and after criticising severely what he indicated as the defects of medical service under the panel system, advocated strongly recourse to a National Medical Service as a remedy. Sir John Collie regarded as a mistake the admission to the panels of all proposing themselves, irrespective of character and qualifications. He spoke of men who had never established themselves in practices of any value as having now large numbers of insured patients, and contrasted with this system that which provided practitioners for the army and navy, and for appointments such as those offered by the Poor-law Service or the Post Office. He also called attention to the competition between medical men which was encouraged by the system, and referred to it as producing touting and other unprofessional practices. He was of the opinion that excessively large panel lists were producing scamped and inferior work, giving as an instance the experience of a panel practitioner who had told him that he had to see 50 or 60 patients every evening. He considered that a State Medical Service was the best remedy for this state of affairs and the best means for bringing the advantages of medical science within the reach of the insured. He considered that such a service would be more economical than the present system, and that without interfering with private practice would offer opportunities to those in its lower ranks to rise to eminence, its members doing their best to keep themselves abreast of modern science. We referred in a leading article last week to one great argument against a State Medical Service—at any rate, in the present position of medical practice. When the combination of a choice of doctor by the insured with a regimented service is considered, the path advocated by Sir John Collie is seen to be difficult, while some of his criticisms on the working of the Act are being directly contradicted.

MEDICAL REFEREES AS UNDERSTOOD BY SOME APPROVED SOCIETIES.

A letter to the *Daily News* recently recommended the formation of "complaints committees" as a solution of "the difficulty as regards satisfactory attendance by panel doctors," and went on to call attention, surely somewhat inconsequently, to a practice for which panel doctors are in no way responsible. According to the writer "a large number of persons who have claimed sick pay on the certificate of their panel doctor are sent to another medical gentleman appointed by the Approved Society. The panel doctor says the person is unfit for work. The referee examines the patient and reports to the society that the person is not unfit." The writer, after illustrating the hardship which is thus inflicted upon the sick person by reference to an instance which occurred within his knowledge, continues: "This is happening all over the country. Whose word are we to take—that of the panel doctor who administers to the patient, or the referee appointed by the society?" The point raised is a very important one. It was referred to in THE LANCET of Dec. 13th last, p. 1734, in connexion with a case which occurred at Birkenhead. At Walsall the wholesale summoning of the sick members of a society to present themselves for examination by the medical officer of the society has been inquired into by the Insurance Committee, which passed unanimously the following resolution:—

> That this meeting registers a strong protest against the treatment meted out to the sick members of the Royal Liver Society on Thursday, Nov. 13th, when the whole of the sick members of that society were directed to attend in the space of two hours for the purpose of examination by the medical officer of the society, and that the whole facts, as brought before this meeting, be laid before the Insurance Commissioners in London.

It will be seen from the above that in some Approved Societies, at any rate, the zeal of their officials to conserve their funds is liable to inflict great hardships upon their sick members, and that the principles which should govern the appointment and calling in of a medical referee are entirely misunderstood. The matter is one which concerns all medical men engaged upon panel practice, and in its ethical aspects should be carefully considered by such practitioners as may be invited to act as referees by Approved Societies.

THE NATIONAL INSURANCE ACT AND MIDWIVES.

A legal correspondent writes: "A letter in THE LANCET of Jan. 17th, p. 213, suggested the application of part of the unallotted fund to paying medical men called in upon the advice of a midwife under the provisions of the Midwives Act. This hardly seems possible in view of the fact that the National Insurance Act, 1913, repeals the portion of Section 18 of the original Act, which permitted the fee of the medical practitioner in the circumstances indicated to be recoverable as part of the maternity benefit."

A CENTRAL PANEL COUNCIL FOR LONDON.

We have been requested by Dr. J. Hanna McBurney, 530, Fulham Palace-road, London, S.W., and Mr. Robert J. Farman, 130, Upper Kennington-lane, London, S.E., as temporary honorary secretaries of a movement for the formation of a Central Panel Council for London, to publish the following:—

> With the view to advancing the organisation of the Central Panel Council another stage a conference was held on Jan. 17th.
>
> It will be remembered that a meeting was held on Dec. 18th, 1913, at Caxton Hall, when the following resolutions were adopted:—
>
> 1. That a central body be formed to link up local panel associations.
> 2. That this body be composed of two delegates from each local panel association, preferably the chairman and honorary secretary.
> 3. That the name of this body be the "Central Panel Council (London)."
> 4. That this council be financed by subscriptions from each local panel association.
>
> The conference referred to above met for the purpose of adopting definite "objects," which, if accepted by a meeting of the council to be held at an early date, will rule the policy of this organisation.
>
> These objects are as follows:—
>
> 1. To coordinate the activities of all existing local panel associations and organisations and to encourage and assist in the formation of similar organisations where such do not at present exist.
> 2. To assist in carrying out such policies as may be discussed and agreed upon in the local panel associations and upon which there appears to be general agreement.
> 3. To afford information and advice to the executive officers of the various panel organisations.
> 4. To prepare and present representations when necessary to the Commissioners, Insurance Committees, and other public bodies.
> 5. To maintain and develop in all directions an efficient medical service under the panel system.
>
> It will be seen that the constituent parts of the Central Panel Council will be the local panel organisations, whilst the individual practitioner will remain constituent to his local panel association.
>
> Although the main efforts of the Central Panel Council must at first be directed towards the consolidation of the panel profession in the metropolis, it is earnestly desired that provincial panel associations will take an early opportunity of placing themselves in communication with the honorary secretaries of the council, with a view to the extension of its operations and the coördination of panel policy in all parts of the United Kingdom.
>
> Individual practitioners are urged to at once join the local panel association in their area, and, where no such bodies exist, to form themselves into associations without delay.
>
> With the object of assisting existing associations, honorary secretaries are invited to send their names and addresses to the honorary secretaries of the council, so that a directory may be formed, and this information given to practitioners desirous of joining these bodies.

We are informed further that a meeting of the Central Panel Council for London will be held early in February. Chairmen and honorary secretaries of local panel associations are requested to communicate at once with either Dr. McBurney or Mr. Farman, so that invitations may be issued as early as possible.

THE NATIONAL INSURANCE ACT IN SUFFOLK.

In a recent article dealing with the past year's work under the National Insurance Act, the *East Anglian Daily Times* expressed great satisfaction at the success which has been achieved in the district which it represents. In particular it dwelt upon the relief afforded to women workers and upon the advantages of sanatorium benefit, together with the appreciation of what has been done for them expressed by the insured persons of both sexes who have received medical and sickness benefit. It may be noted that although the article admits that the same experience has not been universal among Approved Societies, it mentions the secretary of an Oddfellows lodge as having stated that so far from the Act having led to malingering in his experience, his lodge, a typical working man's lodge, had paid £90 less in sickness benefit during the past 12 months than they had paid for some years, in spite of the lodge containing 100 more members than before. It would be interesting to know in how many lodges sickness benefit has been less than the average or normal, and whether any cause accounting for this can be assigned.

NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.—The Lord Chancellor took the chair at a dinner held on Jan. 19th at the Savoy Hotel, London, in aid of this league and of the Mansion House Council on Health and Housing. Lord Haldane proposed the prosperity of the cause which both organisations have at heart in an eloquent and discerning speech. Donations towards the objects of the league amounting to upwards of £1800 were acknowledged during the evening.

[illegible] Ann Hutchings died [illegible] house on the eve of her 103rd birthday. Her father was in his 100th year at the time of his death, and a brother died aged 103 years, and a sister aged 98 years. Mrs. Harriet Light, of Weston-super-Mare, who celebrated her 100th birthday on Sept. 13th last, died on Jan. 10th. Mrs. Cooper, of Weston-super-Mare, another centenarian, died on Jan. 7th in her 101st year. Mrs. Clarke, of Rushden, has recently died at the age of 101.

Medical News.

University of London.—At the First Examination for Medical Degrees, held in December, 1913, the following candidates were successful:—

Arthur Lawrence Abel, University College; Cecil Hewitt Atkinson, Guy's Hospital; Abdul Rahman Hassan S. Azzam, St. Thomas's Hospital; *†*George Arthur Emmanuel Barnes, University Tutorial* College; Philip Sidney Bayley, Middlesex Hospital; Keith Carlyle Beatty, Denston College and London Hospital; Charles Courtney Bennett, Guy's College; Edward Jocelyn Bilcliffe, King's College; Alfred Octavius Bolton, St. Bartholomew's Hospital; John Walker Brash, Birkbeck College and St. Mary's Hospital; Israel Braun, South African College, Cape Town, and St. Bartholomew's Hospital; Margaret Hastings Bridge, London (Royal Free Hospital) School of Medicin [illegible] Carpenter, King's College and Chari [illegible] Edwin Carpenter, London Hospital; [illegible] vate study; Bodh Raj Chandhri, Kin [illegible] Cloake, Birkbeck College; Hedley Cl [illegible] Hari Das, University College; Owen Griffith Davies, St. Paul's School; Arthur Henry Douthwaite, University of Bristol and University College; Douglas Alexander Dyer, King's College; Henry Ernest Karslake Eccles, Epsom College and St. Bartholomew's Hospital; George Evelyn Edwards, University College; Robert Walter Laurence Edginton, *University of Birmingham*; William Eidinow, London Hospital; Stewart Farquharson, Tonbridge School; Valentine Francis Farr, St. Paul's School; Walter Alan Flynn, Guy's Hospital; Beatrice Ford, Brighton Municipal Technical College; James Stewart Franklin, St. Thomas's Hospital; Thorsten Carl Wilhelm Geijer, King's College; Johan Coenraad Gie, Guy's Hospital and South African College, Cape Town; Lionel Charles Goument, Dulwich College and St. Bartholomew's Hospital; Dorothy Winifred Gowers, London (Royal Free Hospital) School of Medicine for Women; Algernon Sanders Green and Ronald Benjamin Green, University College; Lawrence Handy, St. Bartholomew's Hospital; Walter Anley Hawes and Charles Graham Haynes, Guy's Hospital; Cecil Edward Eede Herington, St. Bartholomew's Hospital; Cyril Patrick Hines, King's College; Noel Rowland Hutchinson Holmes, Portsmouth Municipal College; Oscar Hyam Hyman and Clifford Venning Isard, St. Thomas's Hospital; Douglass Charles James, St. Bartholomew's Hospital; Theodora Johnston, London (Royal Free Hospital) School of Medicine for Women; Myrddin Emrys Jones, University of Liverpool and St. Thomas's Hospital; George Francis Juckes, St. Bartholomew's Hospital; Nai Kamchorn, Guy's Hospital; Noel Edward Ffarnwell Kemm, University of Bristol; Margaret Hypatia Kingsford, University Tutorial College; Daulat Manghirmal Lálá, King's College and University Tutorial College; Douglas Arthur Campbell Layman, St. Thomas's Hospital; Gerald Esmond MacAlevey, University of Birmingham and St. Mary's Hospital; James Galway McCann, St. Thomas's Hospital; Kathleen McCrie McKeown, London (Royal Free Hospital) School of Medicine for Women; George Gliddon Michell, Plymouth Technical School and private study; †Frederick Currer Miller, Guy's Hospital; Annie Shortridge Mules, London (Royal Free Hospital) School of Medicine for Women and University College, Exeter; Edith Marjorie Newman, University College, Cardiff; Henry Wilfrid Lee Nichols, London Hospital; David Richard Owen, University College, Aberystwyth and private study; Sigrid Letitia Sharpe Pearson, Girton College; Benjamin Wynford Philipps, London Hospital; Ruth Wade Plimsoll, London (Royal Free Hospital) School of Medicine for Women; Montagu Cecil Polhill, University College; Jean Stephanie Pope, London (Royal Free Hospital) School of Medicine for Women; Alexander Rathouse, Guy's Hospital and Transvaal University College, Pretoria; Gordon Hussey Roberts, Whitgift Grammar School and University Tutorial College; John Saunders Lewis Roberts, Swansea Technical College and University College; †‡John Francis Ryan, Merchant Taylors' School and St. Thomas's *Hospital; *Samuel Sacks, London Hospital; Edward* Jeffrey Samuel, University College, Cardiff; Tristram Albert Seton Samuel, Plymouth Technical School; Cedric Kennedy Scales, Epsom College; Hans Schaal, University College and Darmstadt Technical High School; Charlotte Annie Shields, London (Royal Free Hospital) School of Medicine for Women and Southend Technical School; Kildare Lawrence Singer, Birkbeck College; William Herbert Steavenson, Guy's Hospital; *Vernon Radcliffe Stewart, University Tutorial College and Victoria University of Manchester; Nai Synn, St. Bartholomew's Hospital; †Raymund Theron, London Hospital; Jeremias Auret van Heerden, St. Bartholomew's Hospital; Kathleen Suzanne Vine, *London (Royal Free Hospital)* School of Medicine for Women; and Ephraim Benjamin Woolf, London Hospital.

* Distinction in Inorganic Chemistry. † Distinction in Physics.
‡ Distinction in Biology.

University of Liverpool.—The following candidates were successful in the examination held recently for the Diploma in Public Health:—

H. el Arculli, G. A. Crowley, R. Gawlin, H. J. Glover, J. R. Gwynne, H. H. MacWilliams, E. S. Miller, Phœbe M. Powell, J. F. Roberts, H. Seddon, T. W. Wadsworth.

Foreign University Intelligence.—*Greifswald*: Dr. Wagener, of Berlin, has been appointed *docent* of Otology, in succession to Dr. W. Lange, who has gone to Göttingen. Dr. Oskar Gross, *privat-docent* of medicine, has been granted the title of Professor. Dr. Paul Morawitz, extraordinary professor in the University of Freiburg, has been appointed Professor of Medicine.—*Halle*: Dr. Theodor Heynemann, senior *physician to* the University Gynæcological Clinic, has been granted the title of Professor. Dr. Karl Justi has been recognised as *privat-docent* of Pathological Anatomy, General Pathology, and Tropical Diseases.—*Heidelberg*; Dr. Karl Jaspers has been recognised as *privat-docent* of Psychiatry.—*Innsbruck*: Dr. S. von Schumacher, extraordinary professor in the Veterinary School in Vienna, has been appointed Extraordinary Professor of Embryology and Histology. Dr. A. Windaus, extraordinary professor in Freiburg, has been appointed to the chair of Medical Chemistry, in succession to Dr. Pregl.—*Kiel*: Dr. Heinrich Schade, *privat-docent* of medicine, has been granted the title of Professor. Dr. F. Stern has been recognised as *privat-docent* of Psychiatry and Neurology, and Dr. O. Aichel, of Halle, as *privat-docent* of Anatomy and Anthropology, and has been appointed a Prosector in the Anatomical Institute, in succession to Dr. K. von Korff.—*Königsberg*: Dr. Theodor Cohn, *privat-docent* of Urology, and Dr. Hermann Streit, *privat-docent* of Otology, have been granted the title of Professor.—*Lyons*: Dr. J. Lépine has been appointed Clinical Professor of Mental and Nervous Diseases.—*Marburg*: Dr. Jakob Hürter and Dr. Ludwig Kirchheim, *privat-docenten* of Medicine, have been granted the title of Professor.—*Naples*: Dr. Adolfo Ferrata, of Parma, has been recognised as *privat-docent* of Histology and Medical Chemistry.—*Rostock*: Dr. O. Bumke, extraordinary professor in Freiburg, has been appointed to the chair of Psychiatry, in succession to the late Dr. Schuchardt. Dr. Brüning, extraordinary professor of children's diseases, has been recognised as a member of the Medical Professorial Senate.—*Sienna*: Dr. Bruno Brunacci has been recognised as *privat-docent* of Physiology.—*St. Louis University School of Medicine*: Dr. Downey L. Harris has been appointed to the chair of Hygiene.—*Strasburg*: Dr. G. Gruber has been recognised as *privat-docent* of Pathological Anatomy.—*Stuttgart*: Dr. Tafel, who has travelled in Thibet and published valuable researches and observations, has been granted the title of Professor.

Society of Medical Officers of Health: School Medical Service Group.—At the third meeting of this group, held in London under the chairmanship of Dr. R. Hughes, it was resolved that the council of the parent society should be asked to take steps to include whole-time school and assistant school medical officers and medical officers whose duties include school work in the provisions of the Bill securing superannuation and security of tenure. The method of organising sub-groups of the service was discussed, but consideration of the question of approaching the Board of Education and of the relation of the school and public health services was postponed for the present. The next meeting of the group was provisionally fixed for the third week in March at the office of the parent society, 1, Upper Montague-street, Russell-square, London, W.C.—A meeting of the Midland branch group of the School Medical Service Group will be held on Saturday, Jan. 31st, at 3 P.M., at the Medical Institute, Edmund-street, Birmingham, when matters of considerable importance to the service will be discussed. Those unable to attend but desirous of joining the Midland branch group are invited to write to Dr. A. Hamilton Wood, 38, George-road, Edgbaston, Birmingham.

Medical Sickness and Accident Society.—The usual monthly meeting of the executive committee was held at 429, Strand, W.C., on Jan. 16th, Dr. F. J. Allan being in the chair. The accounts presented showed a decrease in the number and amount of sickness claims during the month of December. The new proposals received were above those for the same month in the preceding year, and on the whole year the numbers are about the same. The annual statement of accounts was presented and discussed, and showed a satisfactory improvement in the sickness branch of the society. At this meeting special attention is paid to those claimants who are certified as being permanently incapacitated. This list is a long one, and the amount paid away in 1913 to these cases was over £5000. If ever illustration was required of the necessity for such a society as this, and the comfort and boon it is to those who are unfortunately for ever laid aside from active duties, then these cases serve a striking example. Many of them frankly admit that there is nothing between them, their families, and the workhouse, except the sickness pay they are receiving from the society. The absence of worrying restrictions to all claimants is much appreciated, and this factor, combined with the regular weekly cheque, has much to do with the growing popularity of the society amongst the medical and dental professions. A prospectus and all information may be obtained from the secretary, Mr. Bertram Sutton, 33, Chancery-lane, London, W.C.

UNIVERSITY OF CAMBRIDGE: EXAMINATIONS FOR THE DIPLOMA IN PSYCHOLOGICAL MEDICINE.—The Managin [illegible] tion for [illegible] Tuesday [illegible] The examination for Part I. will be held in Cambridge; that for Part II. will be held in London.

PRESENTATION TO DR. L. A. PARRY.—At a meeting of the Brighton Division of the British Medical Association held on Jan. 16th, Dr. L. A. Parry, the local honorary secretary of the recent annual general meeting of the Association, was presented by the members of the division with a handsome case of cutlery in recognition of his valuable services. The presentation was made by Dr. W. Ainslie Hollis, the President of the Association, who paid a high tribute to the work done by Dr. Parry in organising the arrangements for the meeting. Dr. Parry, who was very warmly received, returned thanks in eloquent terms.

PROPOSED GALTON CELEBRATION.—It is announced by the council of the Eugenics Education Society in the *Eugenics Review* that they have decided to hold each year on Feb. 16th—the anniversary of Sir Francis Galton's birth—a commemorative Galton lecture and dinner, and that the first lecture and dinner will take place on Monday, Feb. 16th next, at the Hotel Cecil, London. Sir Francis Darwin, F.R.S., will deliver the lecture. Further information will be given by the honorary secretary, Galton Celebration Committee, Eugenics Education Society, Kingsway House, Kingsway, W.C.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce for publication Volume VIII. of the new edition of Allen's "Commercial Organic Analysis." This volume has been rewritten under the editorship of Mr. W. A. Davis and Mr. S. S. Sadtler. The subjects and authors are as follows: Enzymes, Proteins of Plants, by E. Frankland Armstrong; the Proteins and Albuminoid Substances, Digestion Products of the Proteins, by S. B. Schryver; Proteins of Milk, by L. L. Van Slyke; Milk, by H. Leffmann; Milk Products, by C. Revis and E. R. Bolton; Meat and Meat Products, by W. D. Richardson; Hæmoglobin and its Derivatives, by J. A. Gardner and G. A. Buckmaster; Albuminoids or Scleroproteins, by J. Alexander; Fibroids, by W. P. Dreaper.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Jan. 15th, Sir Francis H. Champneys being in the chair. A letter was considered from the Registrar-General transmitting a copy of a letter from the Superintendent Registrar for the Wolverhampton district with regard to the conduct of a certified midwife in issuing two certificates, one of death and one of stillbirth, in respect of the same child. The Board decided that the case be referred to the Penal Cases Committee. A letter was considered from the secretary of the Bombay Presidency Nursing Association asking the Board to recognise the certificate of the association as a qualification for the entry of a name on the midwives roll, or in the alternative to establish a branch examination of the Board in Bombay. The Board decided that the [illegible] Somerset be thanked for his letter, and that he be informed that the matter has been noted for consideration on the next revision of the rules. A letter was considered from the resident medical officer of the Rochdale Union Infirmary with reference to the difficulty experienced by his pupils with regard to obtaining outside cases in connexion with their training. The Board directed that the resident medical officer of the Rochdale Union Infirmary be informed that the Board regrets that, not being familiar with the local circumstances of the case, it is unable to advise on the matter referred to them.

THE HUNTERIAN SOCIETY.—The next meeting of the Hunterian Society will be held at St. Bartholomew's Hospital in the library at 9 P.M. on Jan. 28th, and will be a clinical and pathological evening. All members of the medical profession are invited to attend.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting held on Jan. 15th the following list of office bearers and members of council was adopted:—President: Edward William Hope. Vice-Presidents: Thomas Bushby, W. B. Warrington, R. J. M. Buchanan, and Alexander Stookes. Treasurer: R. J. Hamilton. General Secretary: Frank Hugh Barendt. Secretary of Ordinary Meetings: John Hay. Secretary of Pathological Meetings: D. Moore Alexander. Librarian: Nathan Raw. Editor of the Journal: R. W. MacKenna. Council: W. B. Bennett, R. E. Harcourt, A. W. Riddell, J. A. Howard, M. T. Stack, Robert Jones, J. Hayward Willett, A. C. Ransome, James Huskie, V. Chastel De Boinville, William McAfee, and E. Malcolm Stockdale.

Appointments.

Successful appli[illegible] of Public Institutions, and others [illegible] for this column, are invited to [illegible] directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

[illegible] Preston.

[illegible] Tuberculosis Association.

[illegible] Hospital, Birmingham.

WALKER, HAROLD, F.R.C.S. Eng., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 15.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, [illegible] rgeon. Salary £100 per [illegible] —Assistant Medical Officer [illegible] Officer. Salary £250 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon and Junior [illegible] annum respectively, [illegible] t Medical Officer, [illegible] , &c. [illegible] Church-street.— [illegible]

Bournemouth, Royal National Sanatorium for Consumption and Diseases of the Chest.—Visiting Physician.

Bradford City Hospital, Leeds-road.—Assistant Resident Medical Officer. Salary £150 per annum, with board and residence.

Bradford Royal Infirmary.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence. Also House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

Burnley, Victoria Hospital.—Second House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and washing.

Cardiff, King Edward VII.'s Hospital.—House Physician for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

Carmarthen, Joint Counties Asylum.—Second Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, &c.

Chelsea Hospital for Women, Fulham-road, S.W.—House Surgeon, unmarried. Salary £80 per annum. Also Surgeon to Out-patients.

Chester, County Asylum.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board and washing. Also Honorary Radiographer. Also Physician to Out-patients.

Colchester, Essex County Hospital.—House Physician. Salary £100 per annum, with board, residence, and washing.

Coventry Education Committee.—Assistant School Medical Officer. Salary £300 per annum. Also School Dentist. Salary £300 per annum.

Derby County Asylum, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

Dorchester, County Asylum.—Third Assistant Medical Officer. Salary £250 per annum.

Dorchester, Dorset County Hospital.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and laundry.

Dundee Royal Infirmary.—Resident Medical Officers.

Durham County Council.—Assistant Tuberculosis Medical Officer. Salary £300 per annum.

Durham County Asylum.—Third and Fourth Assistant Medical Officers, unmarried. Salary £200 per annum, with board, lodging, and washing.

East Suffolk, Administrative County of.—Assistant to County Medical Officer of Health. Salary £300 per annum.

French Hospital and Dispensary, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer, unmarried. Salary £60 per annum, with board and laundry.

Glasgow, Gartloch Mental Hospital.—Medical Officer. Salary £200 per annum, with board, lodging, and laundry.

Glasgow, Scottish Western Asylums' Research Institute.—Pathologist. Salary £400 per annum.

Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—Surgeon.

Hampstead General and North-West London Hospital.—Assistant Casualty Officer for Out-patient Department. Salary at rate of £60 per annum, with board, residence, and laundry.

Kensington Dispensary and Children's Hospital.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Leeds General Infirmary.—Resident Aural Officer and Resident Obstetric Officer. Salary £100 and £50 per annum respectively, with board, residence, and laundry.

Leeds Township Indoor Institutions, Beckett-street, Leeds.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, washing, apartments, and attendance.

Liverpool, Leasowe Sanatorium Hospital for Surgical Tuberculosis in Children.—Resident Medical Officer, unmarried. Salary £250 per annum, with board and residence.

Liverpool, Royal Southern Hospital.—Resident Pathologist and Bacteriologist. Salary £150 per annum, with board and residence.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Metropolitan Ear, Nose, and Throat Hospital, Fitzroy-square, W.—Clinical Assistant.

Middlesex Hospital, W.—Ophthalmic Surgeon.

Newcastle-upon-Tyne City Asylum, Gosforth.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, and laundry.

New Hospital for Women, 144, Euston-road, N.W.—Female Senior Clinical Assistant in Ophthalmic Department.

New Zealand Government Mental Hospitals.—Two Junior Assistant Medical Officers, unmarried. Salary £260 per annum, all found.

Newport (Mon.), Royal Gwent Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments, &c.

Nottingham, Ransom Sanatorium, Sherwood Forest, Mansfield.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Paddington Infirmary.—Assistant Medical Superintendent of Infirmary and Medical Officer of Workhouse. Salary at rate of £170 per annum, with board, lodging, and washing.

Perth District Asylum.—Assistant Physician. Salary £150 per annum and all found

Prescot Union Workhouse and Infirmary, near Prescot, Liverpool.—Assistant Medical Officer. Salary £240 per annum.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

Reading, Royal Berkshire Hospital.—Second House [illegible] Salary at rate of £80 per annum, with [illegible]

Ryde, Royal Isle of Wight County [illegible] Surgeon, unmarried. Salary £125 per annum.

St. George's Hospital, Hyde Park Corner, S.W.—Medical Superintendent. Salary £500 per annum, with board and residence.

St. Mary's Hospital for Women and Children, Plaistow, E.—Senior Resident Medical Officer. Salary at rate of £90 per annum, with board, residence, and laundry.

Salisbury General Infirmary.—House Surgeon and Assistant House Surgeon, both unmarried. Salary £100 and £50 per annum respectively, with apartments, board, and lodging.

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

Sheffield, Children's Hospital, Western Bank.—House Surgeon (female). Salary £100 per annum, with board and residence.

Shrewsbury, County Asylum.—Senior Assistant Medical Officer and Second Assistant Medical Officer, unmarried. Salary £250 and £200 per annum respectively, with board, apartments, laundry, attendance, &c.

Southend-on-Sea, Borough of.—Tuberculosis Officer. Salary at rate of £500 per annum.

Southwark, Metropolitan Borough of.—Tuberculosis Officer. Salary £500 per annum.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Third Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

Straits Settlements Government.—Three Medical Officers. Salary £300 per annum.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—House Physician. Salary £125 per annum, with board, apartments, and laundry.

Tunbridge Wells General Hospital.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

Walthamstow Urban District Council Isolation Hospital, Chingford.—Resident Medical Officer. Salary £150 per annum, with rooms and board.

Warwick County Asylum, Hatton, near Warwick.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and laundry.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

West Ham and Eastern General Hospital.—Junior House Surgeon. Salary at rate of £75 per annum.

West Ham, County Borough of, Temporary Sanatorium, Dagenham, Essex.—Resident Medical Officer, unmarried. Salary at rate of £300 per annum, with apartments, board, and washing.

Westminster Hospital.—Assistant House Surgeon for three months, non-resident. Board provided.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Senior House Surgeon. Salary £120 per annum, with board, apartments, and washing.

Winchester, Royal Hampshire County Hospital.—House Physician and House Surgeon. Salary £80 per annum in each case.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Ballymore Eustace, in the county of Kildare; at Fleetwood, in the county of Lancs; at Keyingham, in the county of Yorks; at Trowbridge, in the county of Wilts; and at Uttoxeter, in the county of Staffs.

⁂ The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet.

Births, Marriages, and Deaths.

BIRTHS.

Bourne.—On Jan. 17th, at Rutland Park Mansions, Cricklewood, N.W., the wife of A. W. Bourne, F.R.C.S., of a daughter.

Clarke.—On Jan. 7th, at Bolingbr [illegible] Common, the wife of T. Alexander Clarke, [illegible]

Dewey.—On Jan. 17th, the wife of [illegible] Kingswear, London-road, Portsmouth, of a daughter.

Turner.—On Jan. 15th, at Westbury, Purley, Surrey, the wife of S. Duke Turner, M.D., of a daughter.

MARRIAGES.

Baillie—Gargett.—On Jan. 1st, at St. Mary's Church, Oak Bay, Victoria, B.C., David Main Baillie, M.D., to Blanche Winnifred, youngest daughter of Mr. R. B. Gargett.

DEATHS.

Bowie.—On Jan. 14th, at Park Hall, Bixter, Shetland, Thomas Havelock Ewart Bowie, aged 4 years 2 months, eldest son of James Cameron Bowie, J.P., M.B., C.M.

Garrett.—On Jan. 17th, at the Nursing Home, Huddersfield, from pneumonia, after a short illness, Gerald William Blackmann Garrett, B.A., M.R.C.S., in his 29th year.

Longton.—On Jan. 10th, suddenly, aged 43, George Harold Longton, M.R.C.S., L.R.C.P., of 77, New Cavendish-street, W., youngest son of the late Edward John Longton, M.D., J.P., of The Priory, Southport, and Brown Howe, Ulverston.

Politachi.—On Jan. 11th, at Glen Lodge, Kersal, Manchester, John Politachi, M.B., Ch.B. Edin.

Reeves.—On Jan. 16th, Henry Albert Reeves, M.R.C.S.

Wise.—On Jan. 8th, at Lindisfarne, Trowbridge, Wiltshire, Nicholas Vincent Wise, L.R.C.S.I., L.K. and Q.C.I., L.M.I., aged 69.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AMBIGUOUS TITLES.

"What's in a name? That, which we call a rose,
By any other name would smell as sweet"

But when Juliet said this she was referring to the case in which the thing remained constant and the name differed. When the name remained constant and the thing differed, [illegible] a book with the [illegible] ld Know before [illegible] ookery, was the [illegible] few weeks ago, [illegible] mplained to the [illegible] found that the [illegible] which had been [illegible] on the contrary, a very proper one to be in the hands of every young woman Moreover, counsel pointed out that a large number of young women had bought the book, but none of them had complained The art of ambiguous catchy titles seems to have been quite well known to our ancestors. It is said that Louis Antoine Caraccioli (1721—1803) published a book with the ambiguous title of "La Jouissance de Soi Même," and the sale of the book was continual with the libertines, who, however, found nothing but very tedious essays on religion and morality. In the sixth edition the author greatly exulted in his successful contrivance by which means he had punished the vicious curiosities of certain persons, and perhaps had persuaded some, whom otherwise his book might never have reached. On the other hand, as an example of an alluring bait failing to fetch fish, it is recorded that W. J. Mickle, the poet and translator of "The Lusiad" of Camoens, could never fi [illegible] Concubine," written in [illegible] it afterwards (1778) assun [illegible] Martyn."

THE PREVENTION OF VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—Some excellent leaflets have been prepared and distributed in Germany by the "Deutsche Gesellschaft zur Bekampfung der Geschlechtskrankheiten." I shall be glad to know if you can inform me of any similar instructions issued in this or other [illegible]

I [illegible]

Woolwich, Jan 17th [illegible]

*** A number c [illegible] the past few [illegible] "The Sexual [illegible] value of conti- [illegible] Sanitary and [illegible], New York. Recently issued pamphlets on venereal diseases and public health are announced in our advertising pages this week, and appear to be exactly the kind of thing which Dr. Davies wishes to hear of.—ED. L.

AN IMPUDENT LETTER.

A LONDON physician has forwarded to us a letter lately received by him from a [illegible] under the delusion th [illegible] custom among medical [illegible] can be extended to the [illegible] and those who in a sul [illegible] h [illegible]" He proceeds at once to business.—

> I should like to mention that I do not expect you to send me any Patients whithout some compensation, as generally the masseur benefits more from the Patient than the Dr I think it is only fair the Dr. got a certain [illegible] h Patient. [illegible] ble to send me any cases, [illegible] talk the matter over with you.
>
> Yours faithfully,
>
> ————.

We suppress the masseur's name on this occasion, but we should add in so doing that it is very obviously of foreign origin.

THE COMPLIMENTARY DINNER TO DR. ADDISON.

DR. H. H. Mills (21, St. Mary Abbot's-terrace, London, W.) w [illegible] nes of Mr. Walter Jessop, D [illegible] iston Shaw were omitted fr [illegible] ittee for this dinner. He fr [illegible] attend the dinner to apply a [illegible] as the accommodation is limited

FRIEDRICHSHALL MINERAL WATER.

IN an analysis given in our issue of Jan. 3rd of Friedrichshall mineral water the figures refer to the amounts of salts present in 100 cubi [illegible] litre as stated. Th [illegible] just ten times the c [illegible] is our own; the de [illegible] so much depends u [illegible] Randolph Churchill called them with some emphasis.

BOVRIL PICTURES

Messrs Bovril, Limited, of Old street, London, have forwarded us copies of the three bonus pictures of their current picture scheme, the largest being framed, and the other two unframed [illegible] oof of an engraving after [illegible] entitled "Nothing to Fe [illegible] om some children are turning in surprise and excitement at the sight of a huge bear. The gravure is 25¾ × 19¾ in., the full size of the paper being 37½ × 32 in Of the smaller pictures one in entitled "Fireside Joys," by Mr. A J. Elsley, and in this, as in the former, children are the outstanding feature. The size is 20¾ × 16 inches, and the full size of paper 29 × 23 in The remaining picture, by A. de Breanski, jun, is called "In the Heart of Devon." This picture is slightly smaller, being 15 × 20 in., and the full size of paper 23 × 28½ in. These excellent reproductions are the work of Messrs C. W Faulkner, London.

◆

H.K.—Accidents to London school children. The scale of fees adopted by the London County Council in respect of payments to medical men will be found in a letter from the Deputy Clerk of the Council published in THE LANCET of August 16th, 1913, p 513

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof O W Richardson The Origin of Thermal Ionization from Carbon—Prof W H. Bragg: The X Ray Spectra given by Crystals of Sulphur and Quartz—Prof. L N. G. Filon: On the Temperature Variation of the Photo elastic Effect in Strained Glass—Mr. J. H. Shaxby and Dr E. E. Roberts. Studies in Brownian Movement Paper I—On the [illegible] municated by Dr [illegible] from a Gas (communicated by [illegible] and Mr J R Pannell Similar [illegible] Surface Friction of Fluids (communicated by Dr. R T. Glazebrook).—[illegible] tion and [illegible] cated by [illegible] Boiling p [illegible] municated by Prof A. W Porter).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

LECTURE BEFORE THE SOCIETY at 5 P.M.

Surgeon Murray Levick The Experiences of Captain Scott's Northern Party from a Medical Point of View.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F Coleman) at 8 P.M

Discussion:

On Mr. S P Mummery's paper on "The Conservative Treatment of the Pulp"

Casual Communication:

Mr. Leonard Harwood. Case of Congenital Absence of Maxillary Teeth

TUESDAY.

SECTION OF MEDICINE (Hon Secretaries—H Batty Shaw, John Fawcett) at 5 30 P.M.

Discussion:

On Vaccines from the Standpoint of the Physician (opened by Dr. T. J. Horder). Followed by Sir John McFadyean, Dr. Charlton Briscoe, Dr Gillett (Oxford), Dr. Phineas Abraham

The discussion will be continued on Tuesday, Feb 3rd, at 5 P.M., when it will be re-opened by Dr. H D Rolleston.

Mr. G. R. Fox, Beccles; Mr. A. S. Foster, Alcombe; Friedrichshall Mineral Water, Lond.; Dr. Ernest R. W. Frank, Berlin; Mr. T. G. Fenton, Torquay; Dr. W. M. Fairlie, Lond.; Messrs. Fannin and Co., Dublin; Factories, Chief Inspector of, Lond.; Mr. J. W. Fryer, Eastwood; F. R.; Miss F. L. Fuller, Lond.

G.—Messrs. W. Goldsmith and Co., [illegible] Gill, Sheffield; Dr. Edward G. Glover, Midhurst; Mr. Wyndham C. Goodden, Lond.; G. B.; Dr. A. Graham-Stewart, Margate; General Infirmary, Leeds; Messrs. A. H. Grantham and Co., Reading; Garden Cities and Town Planning Association, Lond.; Dr. Douglas J. Guthrie, Edinburgh; Co.-Qr.-Mr.-Sgt. T. Greenwood, Spike Island.

H.—Dr. H. E. Haynes, Brentwood; Mr. J. Smith Hill, Aspatria; Captain A. H. Hayes, R.A.M.C., Havant; Messrs. Hoskins and Sewell, Birmingham; Mr. C. A. Hoefftcke, Lond.; Hove Medical, Turkish, and Swimming Baths, Brighton, Manager of; Mr. E. M. Harvey, Lond.; H. H.; Horton Infirmary, Banbury, Secretary of; Messrs Hatch, Mansfield, and Co., Lond.; Mr. N. Bishop Harman, Lond.; Dr. F. de Havilland Hall, Lond.; Dr. Leopold G. Hill, Lond.

I.—Invernith Sanatorium, Colinsburgh, Secretary of.

J.—Joint Counties Asylum, Carmarthen, Clerk to the; Mr. Edward T. Jones, East Meon; J. R. B. A.; Dr. J. C. Johnson, Lond.; Mr. G. J. Jenkins, Lond.

K.—Messrs. A. Krock and Co., Chicago; Mr. F. E. Kimpton, Lond.; Messrs. H. S. King and Co., Lond.; Mr. J. C. Khambatta, Craghead; King Edward VII.'s Hospital, Cardiff, Secretary of; Kensington Dispensary, Lond., Assistant Secretary of.

L.—Dr. C. E. Lea, Manchester; London Press Exchange, Lond., Manager of; Mr. H. Lett, Lond.; Messrs. Lee and Martin, Birmingham; Dr. M. Lanza, Ottajano; L. F. L.; Liverpool Stanley Hospital, Secretary of; Lady Margaret Hospital, Bromley, Secretary of; Messrs. Longmans, Green, and Co., Lond.; Dr. A. J. Bruce Leckie, Bath; Liverpool Medical Institution, General Secretary of; Local Government Board, Lond., Secretary of.

M.—*Midland Counties Herald*, Birmingham, Secretary of; Messrs. Martin, Clarke, and Co., Lond.; Maltine Manufacturing Co., Lond.; Mr. W. Martindale, Lond.; [illegible] tising Service, Lond.; *Medical Review*, Lond., Manager of; Mr. [illegible] May[illegible] Mess[illegible] Med[illegible] Lon[illegible] R.N., Belfast; Dr. I. B. Muirhead, Lond.; Mr. J. H. Meggy, Lond.; Mr. E. Maynard, Lond.; Mrs. Charles S. Myers, Cambridge; Mr. F. Maxey, Alderney; Medico-Legal Society, Lond.; Dr. H. H. Mills, Lond.; Mr. J. Y. W. MacAlister, Lond., Metropolitan Asylums Board, Lond., Clerk of; Thomas McLean's Galleries, Lond.

N.—North Manchurian Plague Prevention Service, Harbin, Director of; Norfolk and Norwich Hospital, Secretary of; Notts County Council, Mansfield, Clerk to the; Mr. H. Needes, Lond.; Dr. Newell, Margate.

O.—Dr. W. D. O'Kelly, Dublin.

P.—Mr. C. Politachi, Manchester; Dr. F. Pilkington, Lechlade; Messrs. C. Pool and Co., Lond.; Prescot Union, Clerk to the; Mr. J. J. Pickles, Leeds; Dr. J. A. W. Pereira, Exeter; Dr. Eric Pritchard, Lond.

R.—Messrs. Randall Bros., Lond.; The J. D. Riedel Co., Lond.; Messrs. Reynell and Sons, Lond.; Messrs. Reynolds and Branson, Leeds; Messrs. E. J. Reid and Co., Lond.; Royal Society, Lond.; Dr. H. Robinson, Lond.; Royal Isle of Wight County Hospital, Ryde; Royal National Sanatorium for Consumption, Bournemouth, Secretary of; Royal Infirmary, Sunderland, Secretary of; Royal College of Surgeons of England, Secretary of; Dr. R. F. Rand, Frinton-on-Sea; [illegible] ate, [illegible] of; [illegible] Royal Institution of Great Britain, Lond.; Mr. J. M. Rennet, Lond.; Royal Mail Steam Packet Co., Lond.; Registrar-General, Lond.; R. H.; Royal Gwent Hospital, Newport, Secretary of; Royal Meteorological Society, Lond., Secretary of; Royal Academy of Medicine in Ireland, Dublin; Mrs. Aubrey Richardson, Lond.

S.—Mr. E. C. Steinbridge, Lond.; Messrs. Stevens and Sons, Lond.; Saccharin Corporation, Lond.; Dr. G. H. Sherman, Detroit; Dr. Heinrich Stanger, Ulm; Mr. Theodor Steinkopff, Dresden; Southampton Corporation, Clerk to the; Dr. Scrimgeour, Dundee; Messrs. Spiers and Pond, Lond.; Smith's Advertising Agency, Lond.; Southend-on-Sea Corporation, Town Clerk of; *South Wales Argus*, Newport; Mr. Stuart-Low, Lond.; Messrs. G. Street and Co., Lond.; Dr. Knowsley Sibley, Lond.; *The Statist*, Lond.; Messrs. W. H. Smith and Son, Lond.

T.—Messrs. W. Thacker and Co., Lond.; T. F.; Mr. G. G. Turner, Newcastle-on-Tyne; Tunbridge Wells General Hospital, Secretary of; Dr. J. M. Twentyman, Lond.

U.—University of Liverpool, Registrar of.

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Y.—Mr. M. Yearsley, Lond.; Yost Typewriter Co., Lond.; Y. M. C. A. Medical Library, Columbia, Librarian of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. N. B. Andrews, Belfast; Dr. M. Agar, Lond.; Aberdeen [illegible] Cairo; Agricultural College, Aspatria, Principal of.

B.—Mr. H. Butterfield, Northampton; Bradford City, Treasurer to the; Blackburn and East Lancashire Infirmary, Secretary of; Belfast District Lunatic Asylum, Medical Superintendent of; Dr. G. J. Blackmore, Christchurch, New Zealand; Becket Hospital, Barnsley, *Secretary of*; Mr. G. P. Butcher, Plymouth; Mr. S. Boyd, Lond.; Mr. H. Brown, Lond.; Dr. J. C. Bowie, Bixter; Dr. G. Booth, Chesterfield; Messrs. Bedford and Co. Lond.; Messrs. A. Bishop, Lond.; British Medical Association, Brisbane. Hon. Secretary of; Messrs. Batger and Co., Lond.; Messrs. Butterworth and Co., Lond.; Dr. S. A. Bonnerjee, Lond.; Mr. S. N. Bruce, Lond.; Messrs. Baillière, Tindall, and Cox, Lond.; Dr. C. Burnham, Lond.; Barnwood House Asylum, near Glo[illegible] Messrs. [illegible] and Co., [illegible] Corporati[illegible] Beckett Hospital and Dispensary, Barnsley.

C.—Dr. W. Calwell, Belfast; Cheltenham General Hospital, Secretary of; Dr. Cowan, Glasgow; Lieutenant-Colonel R. Cobb, I.M.S., Rapallo, Italy; Croydon General Hospital, Secretary of; Dr. E. H. Colbeck, Lond.; Messrs. Crossley and Co., Lond.; Messrs. Cordes, Hermanni, and Co., Hamburg; Dr. J. Cooke, Lincoln, New Zealand; Dr. H. W. Crowe, Yelverton; Dr. A. M. Caverhill, Blantyre, B.C.A.; Dr. R. Clapp, Tavistock; Dr. W. F. Crofton, Dublin; Cockermouth Rural District Council, Clerk to the; Messrs. W. S. Cater and Co., Launceston; Dr. M. Cowhy, Buttevant.

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T.—Dr. A. H. Tubby, Lond.; Mr. H. Tilley, Lond.; Mr. F. Topic, Prague; Treasury Department, Victoria, B.C.; Dr. H. Taylor, Ebbw Vale; Mr. J. Thin, Edinburgh; Mr. H. B. Tait, Lond.; Dr. J. Batty Tuke, Polton; Mr. A. F. Tredgold, Guildford; Mr. J. A. Topham, Canterbury; Temperance Male and Female Nurses' Co-operation, Lond., Secretary of; T. L.; Dr. W. J. Turrell, Oxford.

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A Lecture

ON

TUBERCULOSIS AS AN INFECTIVE DISEASE.

Delivered at the Brompton Hospital for Consumption and Diseases of the Chest,

By W. CECIL BOSANQUET, M.D. Oxon., F.R.C.P. Lond.,
PHYSICIAN TO BROMPTON HOSPITAL AND TO THE CHARING CROSS HOSPITAL.

Gentlemen,—In considering the question of tuberculosis as an infective disease it may be well to start by defining the latter term, as it may possibly convey a meaning other than that which it should strictly bear.

Definition of Infective Disease.

An *infective* disease is one which is produced by the entrance into the body of a living organism, animal or vegetable, which then multiplies in the blood or tissues and causes injurious effects. This is not quite the same as an *infectious* disease in the popular sense, which implies one which is directly conveyed from one person to another by contact or association. For example, malaria is an infective disease, due to the action of the well-known plasmodium, but it is not infectious, inasmuch as it can only be conveyed from one individual to another by means of the mosquito, a definite cycle of changes in the parasite taking place within the body of the insect. Sleeping sickness is also an infective, but not an infectious, disease, and others are yellow fever and tick fever. Consequently, when we say that tuberculosis is an infective disease we must not immediately assume that it is directly passed from man to man, though this may be the case. Indeed, this is a point on which opinion has varied from time to time, since it is clear that in the Middle Ages phthisis or tuberculosis of the lungs was looked upon as an infectious disease, but this view was gradually abandoned, to be revived later by Budd, Villemin, and others. At the present time the danger of direct infection seems to have been so impressed on the public by a certain school of writers on sanitary matters that there is danger of sufferers being treated as lepers and shunned as unclean and dangerous, whereas it is fairly clear that the risk of direct communication of tuberculosis is at any rate minimal under good sanitary conditions.

The discovery of the bacillus tuberculosis by Koch in 1882 put the infective nature of the disease on an assured footing, and it might be supposed that now, 30 years afterwards, exact knowledge would be possessed as to the path of infection and the conditions necessary for its occurrence. As a matter of fact, this is not the case, and in view of the common nature of the affection it is really surprising how many serious gaps exist in our knowledge concerning it.

The Bacillus Tuberculosis.

We may first consider what is known of the bacillus and its life conditions, and see what light is thus thrown on the problem of its infective nature. The well-known acid-fast rods encountered in tuberculous lesions grow slowly on laboratory media and are not very resistant to hostile influences, being readily destroyed by sunlight and even by ordinary diffused light and drying. It is generally held that the organism does not form spores, though some writers speak of the granular forms of the bacillus, which are formed by breaking up of the rods, as spores. Besides these—the "granules of Much"—some writers have described a form of the bacillus which does not retain the carbol-fuchsine when treated with acid—a view which would introduce considerable confusion into our accepted ideas if it were generally adopted. The B. tuberculosis is only one of a group of organisms which have this peculiar property of resisting decoloration by acids, owing to the presence of a fatty or waxy coat. The relationships between the members of the group are another subject on which doubt continues to exist. Diseases caused by acid-fast organisms are found in cattle, birds, and cold-blooded animals as well as in human tuberculosis, and the controversy as to the essential unity or diversity of the organisms respectively present is as yet unsettled.

The Bovine Variety of Bacillus.

The important question so far as human infection is concerned is as to the ability of the organism found in cattle to establish itself in man, as it is fairly certain that the avian and reptilian varieties do not constitute a practical source of danger. On the answer to this question depends our recognition of a very important source of infection, and the absence of certainty on this point constitutes, perhaps, one of the most serious of all the gaps in our knowledge of the disease. Tuberculosis is very common among cattle, and the bacilli are often present in the milk; hence, if infection can be conveyed to mankind by their means it is possible that a large proportion of human tuberculosis is due to consumption of the milk of tuberculous cattle. Consequently, a large amount of attention has been devoted to the feasibility of infection from bovine sources.

Direct experiment as to transmission of bovine bacilli to man is, of course, impossible, and we are compelled to rely on evidence as to the strain of organisms found in human patients and as to the probable point of entry into the body. Identification of the bovine variety or species depends partly on its morphological and cultural characteristics, and partly on its effect when injected into rabbits in which it produces rapid general tuberculosis, whereas the human form causes only a chronic lesion. This method of examination presumes that the bovine bacilli remain constant in form and virulence when transferred to another host, and it is noteworthy that Eber[1] states that he has been successful in causing alteration both in form and virulence by passing human bacilli through guinea-pigs and then inoculating cattle; in these latter animals infection resulted, and the organisms were found to have assumed the bovine character. If this be confirmed it is likely that bovine bacilli in human beings may revert to or develop into the human type. The British Commission,[2] however, maintains that the several varieties are practically stable, and this is the view of the majority of observers at the present time.

As to the liability of children to become infected with bacilli from a bovine source, the Commissioners speak very definitely. There is, they say, "no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin," or that "primary abdominal tuberculosis, as well as tuberculosis of the cervical glands, is commonly due to ingestion of tuberculous infective material." Again, the potency of tuberculous cow's milk in causing the disease is, in their view, "clearly and butchers have directly infected themselves in the dissection of tuberculous cattle, the resulting local lesion and lymphangitis leading in some instances to a generalised condition, terminating in pulmonary tuberculosis.

CAUSE OF DISEASE IN LATER LIFE.

Having arrived at the conclusion that infection with tuberculosis is very widespread, and that it takes place with great frequency in early childhood, we are met by the question as to the cause of the outbreak of the disease at later periods of life; for it need not be said that of the children who are tested and found to react to a tuberculin test only a small number are suffering from or rapidly develop actual disease.

Two possibilities suggest themselves: either that the bacilli which enter the body in childhood remain in a latent condition for a considerable period of time, until some evil influence leads to a reduction in the resistance of the host; or that adult tuberculosis is practically unconnected with the infantile contamination and results from renewed external infection. Von Behring at one time adopted the view that infection during childhood with bovine bacilli and recrudescence in later life was the usual sequence; and though at present the tendency is to refer the infection of children mainly to human sources, the "recrudescence" theory serves to explain the large proportion of cases in which no source of immediate infection can be traced. The two views are not, of course, mutually exclusive, and it is quite possible, even probable, that both may be true. At present, however, we have to recognise in this uncertainty another gap in our knowledge of tuberculosis.

Whether, then, the disease is relit or reinoculated it is clear that there are special causes at work which render some persons liable to contract tuberculosis, while others escape. These are the so-called "predisposing causes" of the disease. It is very generally admitted that some families suffer more than others from this affection, and it seems probable that there is some inherited peculiarity of constitution which induces this susceptibility. We call this a hereditary weakness of resistance to the bacilli. Instances of such strains of the human stock are within the experience of us all. Among my out-patients at this hospital I had one woman who had lost eight brothers and sisters from the disease; another had lost five brothers and sisters and one parent, and so forth. Members of these delicate families may succumb to tuberculosis, although they do not live under the same roof, but are scattered over the country, so that their special liability can hardly be attributed to direct infection from the same source, unless they are supposed all to contract the disease in infancy when they are together. Nevertheless, a family history of tuberculosis is only obtainable in a minority of all cases. Dr. Shrubsall[9] found that out of 1045 patients in this hospital 410 only had any tuberculous relative (39·2 per cent.); of these 230 had one or both parents affected, with or without other relatives. It is thus apparent that undue importance is often attached to the hereditary taint, and some authors even deny its existence altogether—for example, Calmette. The prognosis does not seem to be markedly worse in the hereditary than in the other cases.

THE INCIDENCE OF TUBERCULOSIS.

Doubts have been expressed as to any increased incidence of tuberculosis on particular races, but there seems definite evidence that the Jewish stock is rather less liable to infection than are the European races, while Celts and negroes suffer severely. Among Europeans it is said that the red-haired type is specially prone to tubercle. No age is exempt, but the young are specially liable to infection, the greatest mortality occurring in children under 5, and they suffer from the acute form of the disease and from affections of bones and joints especially. Some curious observations have been recorded in the Registrar-General's report for this country as to incidence on the two sexes, for whereas tuberculosis used to affect females most, now males suffer more. It is difficult to suggest any valid explanation of this phenomenon. Dwellers in towns, as already noted, fall victims to the disease with much greater frequency than countrymen, the incidence of tuberculosis rising markedly with every increase in density of population.

Careful observations have been made which show a definite connexion between defective housing conditions and the tuberculosis rate, back-to-back houses being especially often centres of the infection, while a direct parallelism can be traced between the existence of conditions of overcrowding and tuberculosis. Thus Henschen[13] investigated the question in Stockholm, and found that the incidence of tubercle in some of the poorer quarters was directly related to the number of persons per room, with the single exception of a district in the oldest part of the town where the rooms were so small that it was impossible for many persons to squeeze into each of them. This connexion between tuberculosis and defective housing has now been recognised by a multitude of observers and may be regarded as firmly established. It agrees with what is known as to the characteristics of the bacillus as previously noted. Dr. Clement Dukes says, "Tuberculosis is more a house disease than an infectious disease."

Similarly, a parallel can be drawn between the poverty of the inhabitants of a district and their liability to consumption. Thus in Hamburg the death-rate per 10,000 living was 10 among persons with an income of over 3500 marks (or say £175) per annum, 39 in those with incomes between 900 and 1200 marks, and 60 among those with 900 marks or under. Thus we find in the case of tuberculosis the verification of the saying of Sir J. Simon that "poverty in its severer forms is among the worst of sanitary evils."

Occupations and other Predisposing Causes.

Certain occupations seem to render those engaged in them more susceptible to tuberculosis. In this country the highest death-rate is in tin-miners, who are followed by filemakers, while lead- and copper-miners also suffer severely, but coal-miners little. Innkeepers and costermongers form other fatal trades. Artisans as a class escape fairly lightly, while farmers are the healthiest of all in respect of this infection.

The high rate among innkeepers is connected with the question of the abuse of alcohol as a predisposing cause of tuberculosis—one to which diverse answers have been given. On the one hand, the experiments which have been made on animals, by giving them alcohol and estimating their liability to contract tuberculosis and the rapidity of the disease when established in them as compared with that in normal animals, can hardly be used as a weighty argument for a similar effect on mankind. Henschen, who points out that the tuberculous death-rate in

Sweden shows a parallelism with the consumption of alcohol, is yet inclined to believe that the drug has little direct influence on the origin of this infection. He draws attention to the fact that alcoholics are usually reduced by their excess to poverty, and that their surroundings are unsatisfactory. He is supported in attaching little weight to intemperance in itself by the statistics of the Phipps Institute in the United States. On the other hand, Brouardel held the opinion that alcohol is the most powerful factor in the spread of tuberculosis; and it appears to be established that the abuse of alcohol may diminish the amount of protective substances present in the blood. Further, everyday observation, if we may so call it, tends to create a belief in the action of this substance in predisposing to consumption and other forms of [illegible] of tuberculous peri- [illegible] om cirrhosis of the [illegible] re definite information we may remain—if not, as Disraeli said, "on the side of the angels," at least on the side of the teetotalers in this particular respect.

The action of other diseases in predisposing to tuberculosis is well known. As examples we may note the frequency of an outbreak of the disease in children after measles or whooping-cough and the liability of diabetic subjects to succumb to rapid pulmonary tuberculosis. Mediterranean fever and congenital defects of the heart may also be mentioned in this connexion. Some authors have attributed the occurrence of tuberculosis of the lungs to such anatomical peculiarities as a constriction of the upper thoracic aperture or congenital smallness of the heart. Local injury in the form of sprains and bruises seems to lead in some instances to tuberculosis of joints and bones.

FORMS OF THE DISEASE.

Time does not admit of a lengthy account of the nature of the disturbances brought about in the body by the tubercle bacillus. It is necessary, however, to point out that the disease takes two main forms—one the acute generalised infection, and the other the chronic destructive variety seen in pulmonary, renal, and other local tuberculoses.

Acute general miliary tuberculosis is met with most often in children, and the bacilli are carried by the blood stream and deposited in practically all the organs of the body, where they give rise to the familiar small nodules, histologically consisting of giant, epithelioid, and small round cells. The giant and epithelioid cells are seemingly derived from the lining cells of the lymphatic channels in which the bacilli settle and multiply. The disease is characterised by high irregular fever and signs of general toxæmia, diagnosis from enteric fever being often difficult; and the condition points to a rapid multiplication of the organisms and vigorous manufacture of toxins, the host having scarcely any power of resistance against the invasion.

In the chronic form, on the other hand, the bacilli settle in some local focus and the disease extends by continuity of tissue—that is to say, by way of the minute lymphatic spaces and channels—producing a gradual destruction of the organ attacked, but often failing to establish itself in any other. This failure is apparently not due to the fact that the bacilli are imprisoned in the tissue at the original seat of infection, as many observers have noted that in pulmonary tuberculosis bacilli can be found in the blood stream. Inability to extend to other parts seems to be due to the existence of some general immunity against attack. In the final stage of the disease, indeed, when the resistance of the host is worn out, an extension of miliary tubercles may occur to more distant parts of the affected organ and also to other parts of the body. Thus we may see the termination of a case of consumption brought about by an acute miliary tuberculosis of the remaining portions of lung tissue or by tuberculous meningitis.

THE TOXINS AND MECHANISM OF RESISTANCE.

As to the nature of the poisons formed by the tubercle bacillus little certain knowledge seems to exist. Three varieties have been described—fatty bodies from the covering membrane of the bacilli, soluble products of their activity, and the actual proteins representing the living substance of the organisms. Among the definite effects due to one or other of these may be noted the production of fever—a general reaction—and the necrosing property which results in caseation. Whether a special poison is associated with the tendency to sweat is not clear. Piéry[14] has asserted that tubercle bacilli are eliminated with the sweat.

If little is known of the toxins at work, it is not surprising that we are equally uncertain as to the mechanism of resistance. No definite antitoxin *analogous to* [illegible] has *been* identified. Of [illegible] occurs in the case of c [illegible] known, though some writers regard the granular appearance of the bacilli seen in certain cases as evidence of commencing lysis. Phagocytosis certainly occurs, and in pleural and pericardial effusions the leucocytes can be seen loaded with bacilli, while the opsonising action of the serum has been sufficiently proved; but it is not by any means clear that phagocytosis is an important factor in immunity to tubercle. We are left with the possibilities either of some substance in the serum which inhibits the growth of the organisms, though it does not actively destroy them, or of an increased power acquired by the tissue cells of resisting the destructive action of the toxins. Anatomically, arrested tuberculosis is characterised by areas of dense fibrous tissue in the centre of which there may remain living bacilli. That some antibody is formed in the infection seems sufficiently proved by the phenomenon of complement fixation (analogous to the Wassermann test for syphilis) which is pretty constantly present in tuberculous patients. A short experience of this reaction as a clinical test for tuberculosis—too short to enable any very certain statement to be made—suggests that it is at least as trustworthy for diagnostic purposes as the agglutination test for enteric fever associated with the name of Widal. Some actual agglutination of tubercle bacilli may be effected by the serum of tuberculous patients.

The possibility of producing an increase of resistance in animals by vaccines of tubercle bacilli was for a long time in doubt, attempts to produce attenuated strains of the organisms usually proving abortive. Positive results have been, however, reported from time to time, some of the most recent being those of Webb and Williams[15] in America, who were actually encouraged to try inoculation of living bacilli into children of tuberculous parents as a prophylactic against infection. The doses used were infinitesimal, starting with one bacillus and rising to only 150, but these observers claimed that there resulted a gain of weight and general improvement in health. Some degree of immunity is apparently produced in cattle by injection of tubercle bacilli derived from human sources, second twenty-four hours of an attack, 152 in all, 6 died, a percentage of 3·9; whereas of those in whom operation was postponed until the third day of the attack, 115 in all, 10 died, a percentage of 8·7. I do not think that any deductions can be drawn from the death-rate of the cases operated upon from the fourth to the ninth days, as the numbers are so small. But attention may be drawn to the fact that of the 58 patients operated upon on the tenth day or later only 1 died. If Table B is examined for details of these cases, it will be seen that 40 were cases of abscess and in 14 the inflammation was limited to the appendix—in other words, that in 54 cases the condition was well localised, consequently there was much less danger in operating upon them than in cases which were not so localised.

TABLE B.—*Showing the Mortality of Operation on the Different Days of the Attack.*

Day of attack.	Inflamed.		Local peritonitis.		Abscess.		General peritonitis.		Total.		Mortality per cent.
	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	
First day	99	1	35	0	13	0	13	1	160	2	1·2
Second day... ...	62	0	39	1	25	1	20	4	146	6	3·9
Third day	40	0	10	3	43	2	12	5	105	10	8·7
Fourth day	22	0	10	1	10	0	6	1	48	2	4
Fifth day	12	0	3	0	17	0	3	1	35	1	2·8
Sixth day	5	0	4	0	11	0	1	0	21	0	0
Seventh day ...	9	0	3	0	23	1	6	2	41	3	6·8
Eighth day	4	0	1	0	5	0	0	0	10	0	0
Ninth day	2	0	1	0	5	2	1	2	9	4	30·7
Tenth day or later	14	0	3	1	40	0	0	0	57	1	1·7
Day not stated ...	14	0	8	0	12	1	2	0	36	1	2·7
Total	283	1	117	6	204	7	64	16	668	30	4·3

These statistics illustrate the value of early operation, during the first twenty-four hours of the attack if possible, and the cases are sufficiently numerous to justify the statement that operation during the first twenty-four hours is attended with extremely little risk; operation during the second day with considerably more risk, though it is still small; but if operation is postponed until the third day the prognosis is much more serious.

Some may argue that the results obtained in the operations on the tenth day or later are strongly in favour of postponing operation. The reply, of course, is that it is generally impossible to tell in which cases the inflammatory process will become localised and operation may be deferred with safety. I would once more point to the total mortality of 3·2 per cent. in this series, compared with the total mortality of 17·2 per cent. in the series published in 1905, when operation was very rarely performed in the first stages of the attack, but was postponed as long as possible, in order to allow the attack to subside, or failing this, to allow the inflammation to become localised. The earlier statistics illustrate the results of postponing operation; the present ones the result of operating early. If all cases could be left with safety until the tenth day the general mortality would be still lower than it is; but unfortunately they cannot, and it is therefore our duty to remove the appendix at a time when the risk is reduced to a minimum—that is, during the first twenty-four hours—a procedure which offers the prospect of a mortality of only 1·2 per cent.

Complications of Acute Appendicitis.

Unfortunately, it is by no means rare for the patient's convalescence to be delayed by certain complications which may arise during the attack. Thus we find that out of 698 patients operated upon during the acute stage, in 83—that is, 11·9 per cent.—various complications arose. Among them were 25 cases of fæcal fistula, 22 cases of secondary abscess, 17 pulmonary complications, and 12 cases of intestinal obstruction. Three patients had more than one complication; for example, of two of the cases of pleural effusion, one was associated with a subdiaphragmatic abscess and the other with bronchopneumonia, and the patient with empyema also had a subdiaphragmatic abscess.

That 4·9 per cent. of all patients operated upon during an attack of appendicitis, or 1 in 8, should suffer from complications is very unsatisfactory, but even so, it is a great improvement on former results. In the 1905 series, out of 636 cases of acute appendicitis, 146, or 22·9 per cent., had complications. The percentage has therefore been reduced from 22·9 to 11·9 per cent. The explanation of this reduction is easily found; there can be no doubt that it is due to operating early instead of postponing it until the patient has developed an abscess or general peritonitis. For on investigating the 83 cases in which complications arose, we find that in all but six there was an abscess or peritonitis, general or local, in the great majority an abscess or general peritonitis. Of the six cases in which the inflammation remained localised to the appendix, one was a case of intestinal obstruction in which the appendix itself formed the obstructing band, and probably became gangrenous in consequence of the cutting off its blood supply by the stretching of the appendix and its mesentery.

TABLE C.—*Showing the Complications which Occurred.*

—	1905 series.		Present series.	
Total number of cases operated upon during the attack	636		698	
Secondary abscess	16		22	
Subdiaphragmatic abscess	6		4	
Fæcal fistula	49		25	
Thrombosis	12		4	
Pulmonary complications—	45		17	
Pulmonary embolism		1		0
Empyema		7		1
Pleural effusion		14		4
Pleurisy without effusion		2		0
Bronchopneumonia		17		7
Lobar pneumonia		0		2
Bronchitis		4		3
Intestinal obstruction	10		12	
Pylephlebitis	4		2	
Parotitis	4		0	
Total number of complications	146		86	

Note.—One of the patients with pleural effusion also had a subdiaphragmatic abscess, and another had bronchopneumonia. The patient with empyema also had a subdiaphragmatic abscess.

Secondary abscess.—Secondary abscesses form a large proportion of the complications, for as will be seen on reference to Table C, a secondary abscess developed in no less than 22 of the 83 patients apart from the four patients who had a subdiaphragmatic abscess. The majority occurred in the pelvis in the rectovesical pouch, as a natural consequence of the routine adoption of the valuable Fowler's position, which causes all free fluid in the peritoneal cavity to gravitate to the pelvis. But the number of these cases of secondary abscess is, I think, unnecessarily large; indeed, including the cases of subdiaphragmatic abscess it is greater than the number of secondary abscesses in the 1905 series, in which there were only 22. The frequency of this complication is due, I think, to inadequate drainage. A few years ago there was a tendency to leave drainage tubes in too long; more recently the pendulum had swung to the opposite extreme, and drainage was not continued long enough, and, indeed, in some instances not employed where it was necessary. Fortunately, the prognosis is good—none of the cases of secondary abscess proved fatal.

Subdiaphragmatic abscess.—A subdiaphragmatic abscess occurred four times. In one case it was associated with clear fluid in the right pleura, and in another case with a right empyema. All four abscesses occurred in old-standing cases; in two there was general peritonitis, and operation was not performed until the fifth and sixth days of the attack; in two there was an abscess. All four cases recovered. These results are unusually good. Hoffmann quotes Körte, who collected 60 cases, with a mortality of 33·3 per cent. Barnard collected 76 cases, 40 lived and 36 died, a mortality of 47·4 per cent. Twelve of these were not operated upon and they all died. Of the 64 who underwent operation 24 died, a mortality of 37·5 per cent. But of the 21 consecutive cases operated upon by Barnard himself only 17·7 per cent. died, a proportion which is a truer representation of the mortality of subdiaphragmatic abscess at the present day. We must regard a subdiaphragmatic abscess as a serious complication. For although the four cases mentioned above all recovered, the number is too small to justify any deductions as to the mortality of this condition; nevertheless, the fact that they did all recover is encouraging.

Fæcal fistula.—A fæcal fistula is far more likely to occur in a patient who is operated upon late in an attack than in one who has been operated upon within the first 48 hours. It may result from any of the following causes: 1. Direct extension of the gangrenous process from the appendix to the cæcum or ileum. 2. Imperfect occlusion of the appendix stump. This may occur in cases in which only part of the appendix has been removed, as the proximal part could not be discovered, or it may occur in those cases in which an invaginating purse-string suture placed in the wall of the cæcum round the insertion of the appendix has either cut through the inflamed and œdematous tissue or given way. 3. It may be due to actual tearing of the intestine at the time of operation. 4. It may be due to patches already ulcerated and eroded, which, when freed from the adhesions which support them, perforate. 5. The pressure of a drainage tube on the intestine. In cases of prolonged suppuration, this pressure, combined with sepsis, may give rise to ulceration of the intestine, with subsequent formation of a fæcal fistula. Most of these fistulæ can be avoided by early operation; the following case may be given as an example.

About two years ago I operated upon a boy aged 18 years, 36 hours after the onset of the attack. The appendix was gangrenous and continuous with it was a gangrenous patch on the cæcum of the size of a five-shilling piece. The appendix was removed, the gangrenous part of the cæcum invaginated, and the patient made a rapid and uninterrupted recovery. If an early operation had not been undertaken a fæcal fistula would have been inevitable.

Of the 25 cases of fæcal fistula there were only four in which the operation was performed within the first 48 hours. In the great majority of cases the fæcal fistula followed an old-standing abscess. In the present series of cases fæcal fistula occurred 25 times in 698 acute cases—that is, 3·6 per cent.—a reduction of about 50 per cent. on the incidence of fæcal fistula in the cases of 1905, for among them out of 637 patients who were operated upon for acute appendicitis, 49—that is, 7·7 per cent.—had fæcal fistula.

Thrombosis.—This is another complication which is met with less frequently than formerly. Thrombosis of the femoral veins occurred four times, twice on the right side and twice on the left, compared with 12 times in the 1905 series. It is more common for the left femoral vein to be thrombosed than for the right one, though not in as great a proportion as occurred in these 12 cases—namely, 11 on the left to 1 on the right.

In the present series of cases the first was a boy with a retrocæcal abscess who had been ill for five days before his admission to the hospital; the second case, a man aged 45, had an abscess and had been ill for ten days; in the third case, a man aged 53, there was no abscess, but the operation was a difficult one, and there were many adhesions. The fourth patient was a man aged 65, who had general peritonitis with a gangrenous appendix, and who had only been ill for a day and a half. In the latter case there is little doubt that the age of the patient and his feeble circulation predisposed to thrombosis. All four patients recovered.

Pulmonary embolism.—In connexion with thrombosis we must consider the extremely important condition of pulmonary embolism. There was no case of pulmonary embolism in the present series, but in 1905 there was one case, which proved fatal. In 4000 cases of appendicitis Hoffmann reported 39 cases of thrombosis of the femoral veins, and no less than 22 of these gave rise to pulmonary embolism, 18 of these 22 cases proving fatal. McWilliams in 685 acute cases found four cases of pulmonary embolism, of whom three died, on the third, ninth, and tenth days. If we take these two reports together, we see that out of 26 cases 21 died, a mortality of 80·8 per cent.

Garré and Quincke allude to the varying mortality of pulmonary embolism in the statistics of different authors. They quote the following:—

Lotheissen	found	52	deaths out of	61	cases	= 83·3%
Albanus	,,	10	,, ,,	23	,,	= 43·5%
Gebele	,,	11	,, ,,	14	,,	= 79·0%
Wyder	,,	8	,, ,,	12	,,	= 66·0%

The difference is probably due to the inclusion of slight cases by some authors, while others only included cases in which the symptoms were pronounced and severe.

Pulmonary embolism is, perhaps, the greatest tragedy of surgery, and any treatment which is likely to prevent this calamity should receive most careful attention. Hoffmann has obtained remarkable results by making the patient stand up out of bed, even if only for a minute, the day after operation, and this is repeated on subsequent days. If it is quite impossible for the patient to stand, passive and active movements of the lower extremities are instituted, and, later, massage. His statistics embrace all cases up to the year 1912, and this treatment was begun in the year 1908. After the introduction of this treatment there were only 3 cases of thrombosis and emboli, compared with 36 in the previous years, and none of these 3 had been made to get out of bed the day after operation. This is most suggestive, and the treatment is worthy of very careful consideration.

The mortality of severe cases of pulmonary embolism appears to be about 75 per cent., but, as was pointed out by Sir R. Douglas Powell, in all probability many of the cases of bronchopneumonia, empyema, and pleurisy which arise as complications of appendicitis are really embolic in origin. Fortunately, we can say that at the present time, with modern methods of treatment, fatal pulmonary embolism is an extremely rare complication of appendicitis.

In four cases the pulmonary artery has been opened and the clot removed by Trendelenburg's operation. The most successful case was a woman operated upon by Krüger; she lived for five days and a quarter after the operation, and died from purulent pleurisy.

Other pulmonary complications.—Pulmonary affections form a large proportion of the total number of the complications; in the 1905 series they formed 45 out of a total of 146, a proportion of nearly one third, and in the present series 17 out of a total of 86. Reference to Table C will show the relative frequency of the different conditions, bronchopneumonia heading the list, and pleural effusion coming second.

Empyema only occurred once, and then was in association with a subdiaphragmatic abscess. In the 1905 series there were seven cases of empyema; they all appeared to be the result of direct extension of the inflammatory process from below the diaphragm to the pleural cavity. A left-sided empyema occurred once in connexion with a left subdiaphragmatic abscess.

Pleural effusion occurred in four cases—in one the patient had been ill three weeks and had a subdiaphragmatic abscess. The second patient was operated upon for general peritonitis on the third day of the attack, and developed double pleurisy and bronchopneumonia. Both of the other two patients had local peritonitis, and the fluid was on the right side of the chest.

In the remaining cases of bronchopneumonia and lobar pneumonia there was an abscess or peritonitis in nine. Bronchopneumonia developed in one case of acute appendicitis in which the inflammation was limited to the appendix, and in another similar case, in which there were adhesions and free fluid in the peritoneal cavity, the patient had right lobar pneumonia.

A patient aged 64, who had a perforated appendix and was operated upon four days after the beginning of the attack, died from bronchitis and heart failure.

These results are striking evidence of the relation between late operation and pulmonary complications, and indicate the prophylactic value of operation during the first 24 hours of the attack. This is borne out by the 1905 series. *There was an* abscess or general peritonitis in 13 of the 14 cases of pleurisy with effusion, and in 15 of the 17 cases of bronchopneumonia—the remaining 2 cases were considered to be examples of ether pneumonia. The 7 cases of empyema have already been referred to; they were all associated with an abscess or general peritonitis.

Intestinal obstruction.—Intestinal obstruction is a grave and not uncommon complication of appendicitis. In the 1905 series of cases there were 10 cases of intestinal obstruction, giving a percentage of 1 for all cases, and 1·5 per cent. if only the cases of acute appendicitis are included. In 9 there was definite mechanical obstruction by bands, adhesions, &c. Only 1 case of ileus is recorded, though there were probably more. Six of the patients died and 4 recovered. In the 1912 statistics I found 12 cases of intestinal obstruction—that is, 1·2 per cent. of all cases, or 1·7 per cent. of the acute cases. The obstruction may be either paralytic or mechanical. In the paralytic variety or ileus there is paralysis of the intestine with resulting symptoms of intestinal obstruction. In my present series there were five examples of this condition, and four of them died. In its milder forms it is commonly met with, and therefore it is possible to assume that there were other cases in which ileus was present to a slight degree, but no mention has been made of it. When ileus occurs in an attack of appendicitis it is always of grave prognosis, but less so when it occurs early in an attack than later. In the former condition, particularly when it is present before operation, it is often possible to overcome it by appropriate treatment, but when it occurs in the later stages the prognosis is very grave.

Mechanical obstruction occurred in seven cases. It may be due to the presence of adhesions producing a kink in a piece of intestine or adhesions may take the form of a band, which may form a loop round a piece of intestine and so ensnare it, or a loop of intestine may pass underneath it and become strangulated in that way. Lastly, the appendix itself is not very uncommonly the immediate cause of intestinal obstruction. I recently operated upon a patient in whom the tip of the appendix was adherent to the root of the mesentery; it had formed a loop, and through this loop a piece of intestine had passed and was tightly gripped. Not only was the intestine gangrenous, but also the appendix itself. When the appendix forms the constricting band the prognosis becomes rather more serious, as not infrequently the stretching of the appendix has cut off its blood-supply and gangrene has followed, with resulting general peritonitis. In these cases the primary condition appears to be that of intestinal obstruction, with secondary gangrene of the appendix.

Ruge found 44 cases of intestinal obstruction in 2385 cases of appendicitis, a proportion of 1·8 per cent., which is not very far from the proportion of 1·2 per cent. in my cases. Among these 44 there were 14 cases of ileus, 7 of whom recovered and 7 died. Of the other cases the appendix itself formed the constricting band in no less than 6; of these only 2 recovered and 4 died.

The frequency with which intestinal obstruction occurs, as is the case with nearly all the other complications of appendicitis, depends largely on the time at which the primary operation is performed. It is interesting to note that in all of my 12 cases either an abscess or general peritonitis existed. None of these cases had been known as early operation, that is, within the first 24 hours, or even the first 48 hours.

In discussing intestinal obstruction due to appendicitis one must bear in mind the possibility *of an attack of appendicitis leaving behind it bands* and adhesions, which may cause intestinal obstruction at a later date. The prognosis is grave. Of the 10 cases in the 1905 series 4 recovered and 6 died; in the present series 6 recovered and 6 died; while of Ruge's cases 23 recovered and 21 died; a total of 33 recoveries and 33 deaths, giving the high mortality of 50 per cent.

Jaundice.—Speaking generally, when jaundice complicates an attack of appendicitis the prognosis is grave. Hoffmann has recorded 11 cases; in nearly all of them there was acute perforative appendicitis, in several diffuse peritonitis, or extensive abscesses. He regards jaundice as a sign of very severe illness, especially if it appears early in the attack. Reichel thinks that jaundice may arise from the spreading of infectious material, and therefore advises that in the case of an abscess one should be content with opening it only, and nothing more, when the disease has existed 48 hours. Eight of his 18 patients who had jaundice recovered, a mortality of 55·55 per cent., but of Aldehoff's 14 cases 11 recovered and only 3 died. It may be due to various causes, and may appear at various stages of the illness. The following are the principal causes: (1) Simple catarrhal jaundice; (2) toxæmia; (3) direct extension of the inflammation from the appendix to the gall-bladder and biliary ducts; (4) pylephlebitis; and (5) the so-called delayed chloroform poisoning.

1. *Simple catarrhal jaundice.*—I recently saw a case of this sort in which the patient's illness began with vomiting; catarrhal jaundice shortly followed, and on the next day pain began in the right iliac fossa. Operation was performed within 36 hours, and an acutely inflamed appendix removed. The jaundice followed the usual course of catarrhal jaundice and subsided in the ordinary way after a brief period in which the stools were clay-coloured, the urine contained large quantities of bile pigment, and the skin and sclerotics were deeply tinged with yellow. This is the least serious form, and may be met with in varying degrees; in some cases there is merely a slight and evanescent tingeing of the sclerotics, but in others, as in the case just described, the patient may pass through a typical attack of catarrhal jaundice.

2. *Toxæmia.*—The second class consists of cases in which the jaundice appears to be the result of toxæmia. A good example of this has been described by Holländer. The patient had well-marked jaundice with an appendix abscess. The abscess was opened and drained and a gangrenous appendix removed. The jaundice disappeared within two or three days. In consequence of his experience in this case, Holländer suggests that when jaundice is present in cases of acute appendicitis it indicates that the appendix is gangrenous. There are also mild cases in which the jaundice appears in the early stages of the attack, and passes off shortly after operation; they probably belong to this second class.

3. In the third class are placed cases in which there is a direct extension of inflammation of the appendix to the gall-bladder, and numerous adhesions are found about the gall-bladder.

4. *Pylephlebitis.*—The fourth class is composed of cases which are still more serious. I refer to those cases in which jaundice is a result of portal pyæmia or acute pylephlebitis. These cases are, fortunately, rare. In the 1000 cases which I collected in 1905 there were 4 cases of pylephlebitis, all of which died. In the present series *there were 2 cases, one of which was due to* actinomycosis. It is, however, important to remember that jaundice is not always present in these cases. In neither of the two cases reported by Bidwell, one of which recovered, was there jaundice. The diagnosis of the condition is generally easy. The usual history is that of an attack of acute appendicitis, the formation of an abscess, and, after a varying interval, the onset of rigors, and a few days later the appearance of jaundice. A little later still the liver may enlarge and become tender. It is interesting to note, however, that this is by no means invariably the sequence of events. I remember a patient who was, some years ago, in the London Hospital under my care with jaundice, enlargement of the liver, and tenderness in the region of the gall-bladder. There was *a history of an acute attack* of pain on the right side of the abdomen three weeks previously. The temperature was raised. A diagnosis was made of acute cholangitis secondary to gall-stones, but operation proved that the patient had pylephlebitis with a small retrocæcal abscess and a perforated appendix. I have been rather struck in the few cases which I have come across by the comparatively mild local signs of appendicitis; but this cannot be taken as the rule, for in 7 cases reported by Hoffmann, 2 followed acute appendicitis, 3 after incising an abscess, and 2 after operation for diffuse peritonitis. Sasse, however, reports 2 cases in which the appendicitis was of such a mild type that the patients were not confined to bed; but about ten days after the beginning of the attack they developed symptoms of pylephlebitis and died a few days later. The gravity of the condition lies in the fact that as a rule the liver is riddled with small abscesses, and so is beyond surgical treatment. In Hoffmann's 7 cases, in only 2 was there an abscess sufficiently large to be incised; one of these recovered, but the other patient died. In my own experience I have had 2 cases which recovered, one of them a patient with a large abscess, which was drained, and the other a case of considerable interest, in which, on exposing the liver, I found numerous small abscesses the size of a pea or less; the staphylococcus pyogenes aureus was found in pure culture, a vaccine was prepared and given, and the patient made a good recovery. While the prognosis in cases of pylephlebitis is necessarily grave, it is not hopeless, and an exploratory operation should always be performed, and the condition found dealt with by drainage, where possible, otherwise by vaccines. It also goes without saying that in these cases the primary focus of the disease—namely, the appendix—should always be removed. With regard to treatment, Wilms has published a very remarkable case in which he ligatured the efferent veins leading from the appendix. This patient had had five rigors, but after the veins were ligatured the rigors ceased, and the patient made a good recovery without gangrene of the intestine, or any interference with peristalsis. Sprengel attempted to carry out a similar operation in a patient upon whom he had operated and removed a gangrenous appendix 36 hours after the beginning of the attack. Nine days after removal of the appendix the patient had a rigor, and two or three

1905, and 2 cases of pylephlebitis as opposed to 4. Further, with very few exceptions, all the complications in the present series occurred in patients who, at the time of operation, were either suffering from abscess or from general peritonitis. Another point in favour of early operation, apart from the prevention of such grave conditions as the formation of an abscess or general peritonitis, is the fact that in the great majority of cases it is possible to close the wound and obtain union by first intention.

Lastly, another point—and a point of considerable importance in the prognosis—is the fact that appendicitis is essentially a disease where relapse is the rule and where freedom from recurrence is the exception. And the only cure is treatment by operation. Medical treatment may be successful in tiding the patient over an attack, but the probability that further attacks will supervene is very great. Of 233 cases collected by Karrenstein 50·2 per cent. had further attacks—60 per cent. in the first year, 20 per cent. in the second, and 20 per cent. subsequently. Of 1933 cases Kümmell found that 989, or 51·1 per cent., had had previous attacks. When operation is performed in the early stages of an attack the appendix can always be removed, and thus the possibility of further attacks is obviated.

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TRAUMA IN RELATION TO CERTAIN ASPECTS OF NERVOUS DISEASE.[1]

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THE relation of trauma to disease has always been a matter of very considerable interest, both from a practical as well as a theoretical point of view. It is unnecessary for me to emphasise the difficulties which often arise in deciding what part trauma has played in the production of certain morbid conditions. On the other hand, the relationship in many cases is quite clear. Both the importance of the question and the difficulties connected with it have materially increased during recent years, owing to legislation which has been introduced in connexion with the subject.

Probably in no other department of medicine is the influence of trauma in the production of incapacity more pronounced, or harder to estimate fairly, than in its relation to the nervous system. The difficulty arises not so much in connexion with organic disease, which may have been caused by trauma, as in connexion with various functional conditions of post-traumatic origin. Many of these are of a purely subjective character, and human nature being what it is, the tendency to exaggeration has ample opportunity for appearing. This tendency is, of course, exhibited more particularly by individuals of a neurotic disposition, whose nervous system is especially liable to disturbance as the result of accident. In these cases the trauma is as much psychical as physical. It is the duty of the physician to form an estimate of the extent to which the symptoms complained of may fairly be attributed to the injury received, and it is in this respect that so much difficulty arises.

As the relationship of trauma to nervous disease is a very wide one, I propose to select certain aspects only for consideration. As a result of trauma both organic and functional disorders occur in the nervous system. The former bear, as a rule, a direct focal relationship to the injury which caused them, whilst the latter do not. For instance, cerebral symptoms of a functional character may follow an injury to the back, or, again, hysterical paraplegia may follow an injury to the eye. The position of the injury bears no constant relation to the symptoms complained of, except, perhaps, that head injuries are rather more likely than others to give rise to cerebral symptoms.

Head Injuries in Relation to Nervous Disease.

I do not propose to consider the immediate result of severe head injuries, such as concussion or compression of the brain, but rather their remote effects. I will take as illustrations cases that have come recently under my own observation.

CASE 1.—The patient, a man aged 30, gave the following history. Five days before being seen he had been hit on the side of the head whilst playing cricket. He was batting at the time, and the ball hit him on the left temple. He was knocked over and lost consciousness for a few moments. He recovered quickly and was able to finish the game. That night he complained of severe headache and vomited several times. He remained in bed a day or so, but on the fourth day after the accident, when he was beginning to feel well again, he had a fit. Consciousness was not lost, and only the right side of the face was affected. Duration of the attack four minutes. Since the fit he had experienced slight difficulty in expressing himself. He had a second attack later in the day, and a third when I was examining him next day. The attacks were all similar in character and only involved the right side of the face. Examination revealed slight weakness of the right facial muscles and a slight degree of motor aphasia, the patient being often at a loss for a word and his vocabulary being limited. There was no other sign of organic nervous disease. The optic discs were normal and nothing could be felt at the seat of the injury.

From a consideration of the history of the case, in conjunction with the symptoms, a diagnosis of extradural hæmorrhage was made, the site of this being the lower part of the precentral gyrus and the origin of the hæmorrhage the anterior branch of the middle meningeal artery. Mr. Arthur Edmunds saw the case with me, and an operation was performed next day. A depressed fracture was found under the temporal muscle which we had not been able to feel before, and a considerable quantity of extradural clot was found when the depressed bone had been removed. This was removed and the dura opened to make sure that there was no subdural injury. None was found and the wound was closed. The patient made an uninterrupted recovery, and there were no more Jacksonian fits. Some weeks after the operation, however, the patient had a fit in every respect identical with those of idiopathic epilepsy. I did not hear of this till some months after the operation, by which time he had had several more attacks. He had not been put on bromides after the operation, as we reckoned on having removed the exciting cause of the fits. This I now think was a mistake, and in any similar case I should certainly advise the administration of bromides for a time after the operation. The patient was put on sodium bromide 20 gr. t.d.s., and there have been no more attacks.

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[1] A paper read before the Windsor and District Medical Society.

The case will serve to introduce the difficult question of post-traumatic epilepsy. It is often very difficult to decide, though it was not in the case quoted, whether there is any causal relationship between head injury, or indeed any injury, and the subsequent development of epilepsy. I say "any" injury advisedly, as one has to remember that the mental or emotional shock, which often accompanies accident, may be in itself sufficient to produce epileptic attacks in specially predisposed individuals. Another important point which must not be lost sight of is that in a certain number of cases the head injury which may have been regarded as the *cause* of the fits is in reality the *result* of epilepsy, the patient having fallen in a first attack and injured himself. Again, epilepsy is a disease to which a certain amount of stigma is attached by the public. This is thought to be minimised if a definite cause can be found for the fits, any possible reflection on the parents being thereby obviated. Consequently old and forgotten head injuries are "remembered" subsequent to the first attack. This is specially noticeable in the case of children, in whom it is seldom difficult to find some occasion on which the head has been bumped.

The types of epilepsy that may follow injury may be either (*a*) focal or (*b*) general, including under this heading both grand and petit mal. Of these, however, the latter is much more rarely met with than the former. Focal fits, as in the case quoted, are almost always due to local pathological changes. Of these the commonest are depressed fractures, splinters of bone from the inner table, and blood-clot. In cases of long standing meningeal cysts or thickening and cortical scarring may be met with. In a few instances nothing is found at operation to account for the fits.

With regard to prognosis, the result of operative treatment in the focal cases is good if the injury is recent and the brain cortex uninjured, but is much worse where cysts have formed or the cortex has been injured. Where a scar exists in the cortex little good can be expected from the operation, and it is most inadvisable to interfere in any way with the brain tissue. Certain cases of Jacksonian epilepsy are reported from time to time as having been benefited by operation where nothing has been done beyond opening the skull, and in which nothing pathological has been found at the operation. In my experience such cases, if followed up, will usually be found to relapse into the *status quo ante*.

In cases of general epilepsy following head injury it is extremely doubtful if any operation ever does any permanent good. Statistics show that a definite history of trauma is obtainable in only a very small percentage of cases of general epilepsy, and although a few cases seem for a time to have benefited as the result of decompression operation, the improvement is not sufficiently lasting to encourage surgical intervention.

Traumatic Insanity.

In this case, again, there is a natural inclination on the part of relatives to seek for a definite cause for the condition, and blows or injury to the head are often suggested in this connexion. As a matter of experience very few patients can be shown to have become insane as the result of trauma, as Mott and others have clearly proved. It would appear, however, that trauma of one kind or another may be an important factor in determining the onset of mental disease, especially in the case of general paralysis. An instance in which trauma seems to have played a determining part in the development of mental symptoms has recently come under my observation.

CASE 2.—A patient, aged 19, was sent to me by Dr. P. W. Rowland, of Colchester, with the following history. The patient fell from his horse and hit the back of his head against the wooden wall of the riding school. He was dazed, but got on the horse again, and was able to finish the lesson. On reaching home he complained of severe headache, and vomited several times during the night. In this respect his symptoms were very similar to those of Case 1, but the sequel is different. From the time of the accident, so the parents declared, the boy had become morose, suspicious, unable to work, and in addition had developed delusions of persecution. Previous to the accident his mental condition had been perfectly normal. I saw him first about seven months after the accident, when he still complained of occipital pain, but the examination of the nervous system was negative. As he did not improve under treatment I had a consultation with Mr. Rawling, who kindly took him into St. Bartholomew's Hospital, and did a decompression operation. The cerebrospinal fluid was found under increased pressure, but there was no evidence of any gross cerebral lesion. The operation has not improved the mental condition at all, and the boy is now in an asylum.

With regard to the question of advising operation in such cases certain facts must be considered. In a few cases operation has been found to relieve mental symptoms that have arisen immediately following a head injury. In such cases some definite lesion has usually been found at operation, such as depressed fracture, blood clot, and so on. In others nothing has been discovered beyond some increase in the cerebrospinal fluid, with œdema of the meninges. Under the circumstances I think that one is justified in advising operation when sufficient trial has been made of proper medical treatment without any benefit. In the majority of cases the results will no doubt be disappointing, but no harm will have been done provided the operation has been performed by an experienced surgeon. In a certain number of cases good results will occur, sufficiently often in my opinion to justify the operation. One cannot pass on without mentioning the famous American crowbar case, in which dementia followed injury to the frontal lobes. The accident in this case was evidently the cause of the mental change, but one must remember that it had produced a gross cerebral lesion.

Post-traumatic Headache.

Headache of a very intense and intractable type is frequently the result of severe head injury. This symptom is often combined with others, which together make up the clinical picture of traumatic neurasthenia, but the headaches may exist alone. They are as a rule intermittent, localised at the onset of the attack, but later become diffused all over the head. The following cases illustrate the types to which I refer.

CASE 3.—A man, aged 39, had a bad fall when riding, as a result of which he lost consciousness and was convulsed on the left side of the body. He remained unconscious
several days, and later had complete amnesia for the
of the three weeks immediately following the accid
a result of the accident he became liable to att
severe headache, localised at their onset to th
but after a time becoming diffused all ov
memory was affected, so that he was un
duties, on which he was very keen
had become impossible, and he fe

c

cases of enteric fever and pleural effusion gave negative results; 2 of the effusion cases had definite tuberculous signs.

The best reactions are to be found in well-nourished individuals, especially children; here Chlumsky is in agreement. Old-standing cases and old subjects usually fail; this is possibly due to the inability of the skin to react, resulting from either chronicity of toxæmia or from trophic changes in the skin concurrent with advancing years. The greater susceptibility of the female sex points to delicacy of the skin as a factor. I also made observations to ascertain whether fair individuals, as opposed to those possessing a larger share of pigment, were more liable to respond, but no relation exists. It is well established that increase in dose of tuberculin injections may convert a failure into a response; both the skin and conjunctival reactions might give better results if the dose were regulated. Among the tuberculous cases all the positive results except 5 occurred under the age of 14 years, the majority of failures occurring between 15 and 40 years of age.

In order to form a more close comparison between the von Pirquet reaction and the Moro test I applied both in a series of 132 cases. Of these cases 51 were definitely tuberculous, but only 13 out of these reacted to both, and 20 failed to respond to either, but I have never observed a tuberculous case which reacted to the ointment fail also to react to the von Pirquet method. Moro reports a similar experience. Out of my cases clinically free from tuberculosis 6 responded to both tests, 50 failed to react to either. Whereas 23 reacted to the scarification only 2 non-tuberculous cases gave results with the ointment only. These results may be more clearly shown in tabular form:—

132 Cases to which Two Tests were Applied.

Tuberculous cases giving von Pirquet and Moro reactions	13	
„ „ „ von Pirquet reaction only	18	
„ „ „ Moro reaction only	0	
„ „ „ failing with both...	20	—51
Non-tuberculous cases giving von Pirquet and Moro reactions ...	6	
„ „ „ von Pirquet reaction only	23	
„ „ „ Moro reaction only	2	
„ „ „ failing with both...	50	—81

From the above it is clear that the von Pirquet test gives a larger number of reactions among tuberculous subjects than the ointment test, but at the same time it gives a much larger number of false results among non-tuberculous individuals. These two skin reactions are much inferior to the ophthalmic test, which gives a large percentage of true results, whilst reactions in non-tuberculous subjects are not very frequent.

Conclusions.—1. The ointment test is exceedingly inaccurate. 2. It does not give nearly so many reactions in non-tuberculous cases as the von Pirquet test. 3. Most reactions are obtained in women and children. 4. It is of no value in prognosis. 5. It more often fails in tuberculous cases than the cutaneous reaction. 6. Late reactions have no clinical significance. 7. Tuberculous cases which respond to the ointment also react to the von Pirquet method. 8. Pyrexia does not interfere with the reaction. 9. The test is free from danger.

[illegible] Roepke: Tuberculin in Diagnosis and [illegible] Med. Jour., 1910, vol. i. Doganoff: [illegible] 1907, No. 31. Heinemann: Munchener Medizinische Wochenschrift, 1908, No. 11. Moro: New York and Philadelphia Medical Journal, 1908. Patterson: Archives of Internal Medicine, 1909. Verge: Brit. Med. Jour., 1910, vol. ii.

Bath.

A CASE OF POST-OPERATIVE OSTEOMYELITIS OF THE FRONTAL BONE.

RECOVERY AFTER WIDE REMOVAL OF THE DISEASED BONE.

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Osteomyelitis of the frontal bone is not a very uncommon complication of frontal sinus suppuration, but it is an extremely dangerous one. Dr. D. Mackenzie,[1] in a recent exhaustive account of the condition, states that in 20 post-operative cases which he collected he had found no case recorded in which the patient had recovered; while in spontaneous cases the results were not so bad, 7 having recovered out of 21 cases after appropriate surgical treatment. The following case is, so far as I know, the first post-operative case in which recovery has ensued, and it accordingly seems desirable to give a somewhat detailed account of it.

The patient, a married woman aged 46, was referred to me from the Eye Department of the Edinburgh Eye, Ear, and Throat Infirmary by Dr. J. V. Paterson. She complained of double vision and a swelling just above the right eyeball towards the external canthus, and there was also definite proptosis. After examination a diagnosis was arrived at of empyema of the right frontal sinus and ethmoidal labyrinth, with orbital abscess.

Killian's operation was performed on May 14th, 1912. The frontal sinus was found to be filled with creamy muco-pus (pure culture of hæmolytic long-chained streptococcus obtained), but the lining membrane was not thickened; hence it was thought that the case was one of infected mucocele. The floor of the sinus had given way rather far back, and pus was lying on the orbital periosteum, which at this spot was covered with granulations; there was a very well-marked orbital extension—it was fully an inch and a half in depth. In smoothing off the bone close to the inter-sinus septum the latter was unfortunately cracked, exposing the sinus on the opposite side. The wound was entirely closed and healed by first intention. Three weeks later the upper eyelid became œdematous; the wound was reopened and a quantity of pus evacuated. The discharge continued in spite of the administration of an autogenous vaccine and of endeavours to obliterate the sinus by pressure.

A second operation was performed on Oct. 3rd, 1912. The inner end of the bridge was removed, and a sinus was traced to the hole in the septum, where pus was seen coming from the left frontal sinus. The outer part of the right frontal sinus was obliterated by dense fibrous tissue, as was the opening into the nose. A Killian's operation was thereupon performed on the left frontal sinus, which also had a deep orbital extension. The inner part of the incision was left open after the operation, sutures being passed, but not tied for 48 hours, there being then no discharge. The wound healed at once, but a few days later the upper eyelid became swollen, and pain was felt at night; there was, however, no pyrexia.

On Nov. 11th the swelling became more marked, and there was great tenderness on pressure over the bridge. The wound was reopened; the inner end of the bridge was divided, and it was then found to be loose, a sequestrum being removed which consisted of the outer end of the bridge and the upper margin of the orbit external to it. (Fig. 1.) No pus was evacuated. The wound was left freely open and loosely packed. The pain was not relieved by the operation and the upper eyelid remained swollen. The temperature varied between 98·4° and 99 2° F.

On Nov. 17th œdema of the skin was noted over the frontal sinus; this spread rapidly, and on the 20th extended up to the hair margin and across the middle line; there was, however, very little discharge from the wound, which was still kept widely open. It was believed that osteomyelitis had set in, and wide removal of the frontal bone appeared to offer the only hope of recovery. Dr. A. Logan Turner, who very kindly saw the patient with me in consultation, concurred in the diagnosis and in the proposed treatment. Accordingly, on the following day a mesial incision was made upwards from the root of the nose, and a triangular flap of skin and periosteum turned back. The bone appeared glazed on the surface; a large circle of bone was removed with hammer and gouge; the bone was about half an inch thick, very soft and vascular, and did not give the usual ring when struck (Fig. 1). The margins of the bone were further removed with bone forceps until a firmer consistence and diminished vascularity appeared to show that the limits of disease had been reached. There was no pus in the substance of the bone, and the dura appeared healthy. The skin flap was then replaced and fixed in position by a few interrupted sutures. There was considerable discharge from the wound for some days; the pus was examined, a staphylococcus pyogenes aureus isolated, and an autogenous vaccine made. Healing gradually took place, and was undoubtedly assisted by the administration of the vaccine. Five doses were given in all, increasing from 50 to 400 millions, the first being administered on Nov. 26th and the last on Jan. 6th, 1913. The patient had no further trouble in the operation area, and she remained in excellent health until Nov. 19th, when she had an attack of pneumonia which carried her off in a few days. The photograph of the patient (Fig. 3) was taken a month after the wound had healed: it hardly brings out the marked flattening on the left side of the head. This was concealed by a wig when going about.

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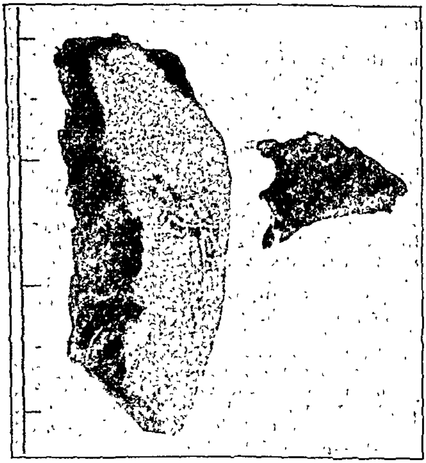
[1] Journal of Laryngology, January, February, and March, 1913.

FIG. 1.



Tl [illegible] of bone was removed at the last operation [illegible]

A small block of bone was taken for microscopic examination from the large piece removed at the last operation. I am indebted to Mr. John Fraser, assistant surgeon to the Royal Hospital for Sick Children, Edinburgh, for having prepared the sections, which were cut from the block after it had been decalcified and embedded in celloidin, and I take this opportunity of thanking him most heartily for his valued services. The sections (Fig. 2) were submitted to Dr. Theodore Shennan, pathologist to the Royal Infirmary, Edinburgh, and I am also most grateful to him for the trouble he has taken in examining them and for the following report which he has very kindly given me:—

"The spaces in the bone in parts are wide, in others very small. There has probably been some absorption in the case of the larger. In some parts there is definitely a deposit of a thin layer of bone on the inner surface of the spaces, and a common feature is the presence of a regular layer of osteoblasts in this situation. The fat in the marrow is of small amount, being represented by only a few fat cells in any one space, and in some spaces the fat has altogether disappeared. It has been replaced by young vascular connective tissue consisting chiefly of long fibroblasts, the long axes of which are arranged parallel to the surface of the space. This young connective tissue is found chiefly round the periphery of the space, the central part being full of cells, chiefly polymorphonuclear leucocytes, but there are also large mononuclear cells of the granular series and occasional giant [illegible] a local bone marrow reaction (though this cannot be excluded by these celloidin sections), and the condition as being one of chronic osteitis with a recent more acute exacerbation."

FIG. 2.

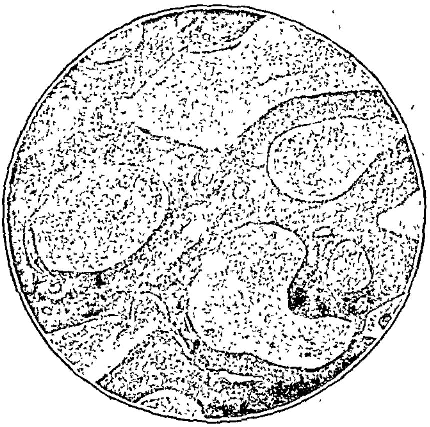
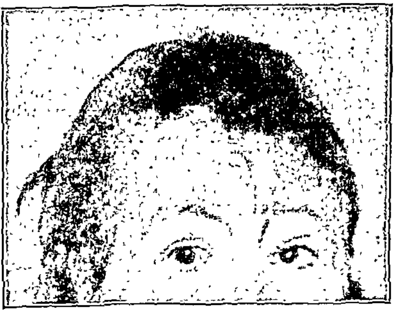


Photo micrograph of section of bone.

FIG. 3.



Photograph of upper part of patient's head after recovery.

Remarks.—There can, I think, in this case be little doubt as to the accuracy of the diagnosis, at any rate as judged by the clinical phenomena. The picture was indeed typical of osteomyelitis in its early stages; the classical sign of osteomyelitis was present—namely, œdematous swelling beyond the confines of the sinus, while the onset was also

VACCINES FROM THE STANDPOINT OF THE PHYSICIAN.[1]

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I. *Introductory.*

I fully endorse the opinion of the council of this section that the time has arrived when the subject of vaccine therapy may be usefully discussed by its members. It is natural that conclusions drawn from the experiences of the physician should be arrived at more slowly than conclusions drawn from the laboratory researches of the bacteriologist. Without being invidious, I think these slower conclusions are likely to be more sure. I will venture to say that as the physician is more free from theories, provided he is also free from prejudice, he is the better judge of practical results. The physician is face to face with the patient throughout the treatment of his disease; he is the direct witness of the struggle and of the issue. Surely the final verdict must be his? If this is true it is, then, equally true that to occupy this high judicial position in respect of so important a matter as we are to-day discussing implies a responsibility none the less high. It behoves us to throw away all bias and to exercise our best judgment after a thorough trial of the matter under consideration. As I said, I think the physician has now had time to test the new therapeutic agent and should be able to speak with some degree of assurance of his results. He is no longer hustled by those who at one time accused him of gross neglect, as though he were deliberately refusing to his patient the benefit of a remedy of proved usefulness; nor is he to-day ridiculed by others who pointed to him as the one stumbling-block in the real advance of scientific medicine. These and other similar errors of judgment have now even less than a historic interest in the growth of specific therapy. That sudden intrusion of the skilled bacteriologist into the sphere of clinical medicine was a sight as pathetic as would be the invasion of the bacteriological laboratory by the physician. The difficulty was only a temporary one, and has been settled in the only way that was ever possible in the patient's interests—by a frank coöperation between the laboratory and the clinique. This partnership yields results that bid fair to stamp it as the final and satisfactory solution of the problem.

II. *Recent Growth of Vaccine Therapy.*

Freed from the incubus under which it first laboured—the hypothesis of the opsonic index—there has been an immense increase in the amount of vaccine therapy undertaken during the past five years. It is uncertain if we may conclude anything from this change in medical opinion in favour of the new remedy. At first sight the growing popularity of inoculation treatment amongst practitioners suggests that its utility is thereby demonstrated. But on a further view we become aware of the fact that to a large extent this accession of practical interest on the part of the doctor is due to the forcing of his hand by the patient. This, and a natural desire not to be left behind, may be responsible for much of the increase in the bulk of vaccine therapy as seen to-day, rather than honest conviction based upon personal experience. Just as hundreds of us joined the vogue for soured milk in the treatment of intestinal dyspepsia a few years back, and hundreds of us join the vogue for treating constipation by paraffin to-day, for reasons of necessity rather than conviction, so many of us inoculate our patients because it is expected of us rather than because we feel it is the best way to cure them. In short, inoculation treatment is fashionable—it has "caught on" with the public—and it does not yet appear what the permanent place of the therapeutic measure will be. It must be confessed that a large amount of vaccine therapy is of the most discursive and slipshod kind; so desultory and unsystematised is it that it must be wholly excluded from any analysis made for purposes of assessing the results of the method in treatment.

III. *Three Grades of the Remedy.*

It was inevitable that the growing demand for vaccines at a price which put them within the reach of patients whose means could not permit accurate bacteriological diagnosis and the preparation of an autogenous vaccine would lead to the supply of "stock vaccines." And in the course of time it was manifestly desirable that the stock vaccines should be prepared with a view to their being "polyvalent"—i.e., that they should be made from a mixture of strains of the particular micro-organism concerned. In addition to the legitimate sphere created for such preparations by the patient's status, there is an actual necessity for them in certain cases of infection in which no material is available for the purpose of autogenous vaccine, but in which experience makes the nature of the infection highly probable. Stock vaccines are also required for prophylactic purposes. The latest demand has been for the addition to the list of vaccines of substances of more questionable value, and chemists now supply stock preparations which are mixtures of the endotoxins of several different micro-organisms: we have arrived at "phylacogens." This is a frank submission to the fact that there are many medical men who feel that something should be injected into their patients, but that beyond this they are not prepared to go. To what degree this submission prostitutes the main principles of vaccine therapy, or whether, after all, the practice of using such substances may not be quite reasonable in the present state of medical training, is perhaps a fit subject for our discussion. The use of phylacogens clearly demonstrates one thing—that the fear of ill-effects from the introduction of microbic poisons into the system has to a large extent died out, both in the mind of the patient and of the doctor, and this must apply as well to the micro-organism which is, as well as to those that are not, causing the disease.

We note, therefore, that the evolution of vaccine therapy has led to the production of *three grades* in the particular instrument made in the bacteriological workshop: autogenous vaccines, stock vaccines, and "phylacogens." That these three grades correspond with three degrees of efficiency there is very little doubt, and in estimating the good effects of vaccine therapy it is obviously unfair to attach any importance to failures following the use of the third grade of preparation, which must be regarded as one of the gambles of science, the hit or miss of medical practice. Even the results of the stock vaccines should not be too closely regarded in judging this question. The merits of vaccine therapy as a curative measure rest almost entirely upon the results obtained by the use of the first grade of preparation—upon autogenous vaccines conscientiously prepared after a full investigation of materials obtained from the patient with scrupulous care.

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[1] the introduction to a discussion at the Medical Section of the [illegible] of Medicine on Jan. 27th, 1914.

IV. *Too Much must not be Expected.*

It is probably not too much to say that in a number of diseases of undoubtedly infective origin the limitations of the vaccine method as at present known have been reached and fully demonstrated. By no arrangement of dose or of interval that I have been able to devise has it been possible to free the urinary tract from B. coli in old-standing cases of chronic infection by this micro-organism, nor the bronchial tract from its mixed and changing flora in chronic bronchitis. But against this should be set the fact, for I believe it to be a fact, that when all that is possible has been done in the way of non-specific measures in the treatment of these affections, the careful use of a systematic course of vaccines leads, in the majority of cases, to a definite further improvement in the general condition, and to a less extent in the local defect. No doubt the difficulty is largely one of drainage; in chronic colon bacillus infection of the urinary tract it is not often a simple cystitis with which we have to deal: vesical sacculi, the prostatic crypts, and the kidney pelvis afford continued refuge for bacilli; and in chronic infection of the bronchial tract there is often a diffuse dilatation of the tubes, if there is not actual bronchiectasis. Effective drainage is of greater fundamental importance in such diseases as these than the most ingeniously arranged course of vaccine therapy. Some time ago I outlined with some care a full programme of treatment in a tedious case of bronchiectasis, and the programme included a course of vaccines prepared against the dominant elements of the flora present in the sputa at the time. Three months later I saw the patient again and shared the pleasure he himself expressed at his improved condition. It was doubtless a salutary thing for my humility to know that, having been compelled to defer his treatment on account of a temporary change of residence, the only point he had observed in my programme, and that very religiously, was to adopt a certain posture I had shown him for half an hour each day during his morning cough.

Too much uniformity of results is often expected from vaccine treatment. The sceptic should remember the complexity of the causal factors in so many infective processes and the variations even in the natural course run by them. He should also remember the difficulties there are in ensuring the proper co-relation of the vaccine used with the pathological condition under consideration. Finally, he should not be over hasty for results. Patience is necessary in order to determine the best mode of calling out the specific response. A bias against vaccines diminishes the physician's chances of success; he is apt to make one of two mistakes: he either proceeds with such unreasonable caution that there is no assurance at any time that he is dealing with more than subminimal doses, or he pursues a too rigid adherence to a particular scheme of dosage and of intervals which has been laid down as a tentative guide rather than as an inviolable law.

V. *Difficulty of Assessing Results.*

The therapeutic argument is probably the most difficult with which we have to deal in connexion with all diseases. In connexion with infective processes it is perhaps more difficult than in any other condition, for two reasons. Most infective processes are capable of spontaneous recovery, and in the majority of them we are doing other things to assist recovery besides giving vaccines. Both of these facts are freely quoted as evidence against the utility of vaccine therapy. And it may be allowed that single instances of recovery after the employment of vaccines in any disease would count for nothing in the experience of any of us. It is only when we see repeated instances of benefit directly following the use of inoculation in cases which had previously remained stationary or had been losing ground that we realise the results are *propter* and not merely *post hoc*. When we have employed all the other measures that are available and the net result is, perhaps, some gain which the patient slowly dissipates, or perhaps no gain at all; and when we then add the specific stimulus of an appropriate vaccine, and witness a specific response that leads to further gain of a definitely progressive sort—it is then that we feel it is right to say that the progress is due to the vaccine. And when such a sequence is repeated again and again in our experience our conviction becomes confirmed and definitely established.

The failures of vaccine therapy are probably more numerous than its successes. I think this is probably true, even if we discard as worthless for analytical purposes a list of instances in which the diagnosis or the bacteriological technique, or both, were faulty. Yet this fact does not of itself prevent my saying that I think we have in vaccine therapy a weapon of enormous value in the war we wage upon the causes of infective diseases. I am confident that the seeing eye can detect quite clearly, here and there, innumerable instances in which the patient has made a specific response to his inoculations, and has thereby been cured of his infection. It is as though one wandered up and down a long passage into which many locked doors opened, carrying a key and trying the doors with it. Many refuse to open: the key does not fit. Then there comes one where the key turns smoothly and the door opens easily. This accurate fitting of lock and key illustrates the specific stimulus and response of a vaccine given in a successful case. The question we are discussing is, primarily, Does any key fit any door? A secondary question will be, How frequently are we able to find the proper key? I have no doubt myself as to the efficacy at times of vaccine therapy. I am as disappointed with results in the mass as most others are. But the primary question is of much greater importance than the secondary because it involves a principle. The secondary question may be answered more satisfactorily as time proceeds and newer methods are introduced. With all the activity shown in vaccines during the past ten years it must be remembered that a great deal of it, as already remarked, has been too crude to serve as a basis for comment.

VI. *Factors Counting for Success.*

In exchange for a frank admission that I consider vaccine therapy a most valuable addition to the physician's powers, I may perhaps be allowed to say that I think this value is in direct proportion to the care and judgment bestowed upon the diagnostic problem. Every therapeutic measure is able to earn an evil reputation if it and the disease process are ill-adjusted. This is no more the fault of the remedy than is an evil reputation earned by the same measure because a fanatic regards it as a panacea when in reality it has only a limited application. If, then, I recount the factors which I regard as leading to success in vaccine therapy I shall speak first of—

1. *Choice of case.*—In the matter of the nature of the micro-organism concerned in the disease I have little to say. I think experience shows that the nature of the microbe matters little compared with the nature of the disease process. But even here, though the results in different processes differ widely, I am prepared to give vaccine therapy a trial, and I expect to get some degree of result, whether the process is chronic or acute, localised or general. What *does* matter is that the process shall be one of proved infection. To isolate a micro-organism from some part of a patient's body and to assume that his disease is therefore due to its activities is only the baldest of surmises. This, in the sphere of diagnosis, is the analogue of "phylacogen" in the sphere of treatment. The microbe found may or may not be pathogenic to the patient, and one or other of the vaccines in the mixture used may or may not be specific for the infecting microbe. The diagnostic argument must be much fuller than this; considerations of pathogenicity include the biochemical characters of the microbe, perhaps its effects when injected into animals, tests to determine its reactions with the patient's blood, some quantitative estimate in regard to it, evidence of pathological changes at the site of its discovery, and the constancy with which it is present in the patient and in controls. All of these criteria cannot, of course, often be obtained, but some of them are always forthcoming if care be exercised in the various methods that are at the joint disposal of physician and bacteriologist. Any considerable degree of knowledge as to which micro-organisms most commonly occur as causes of particular infections can, of course, only be gained by experience, and here again the single experience either of bedside or of laboratory is apt to mislead. It is not uncommon to see the most laudable methods wasted and the most reasonable hopes abandoned because the physician does not know that the vaccine he is using is prepared from a microbe which is incapable of producing the lesions of the disease under treatment. Freer discussion with the bacteriologist would perhaps have saved all concerned from disappointment. It is not too much to say that one can sometimes forecast failure for the very reason that the nature of the vaccine used so lacks conviction in its relationship to the disease process.

2. *Isolation of the causal microbe.*—To the proper collection of infected material too much importance cannot be attached. It behoves the physician to acquaint himself thoroughly with the methods of doing this. It is of sufficient importance to do it himself and not to relegate it to the patient or even to the nurse. There is a feeling abroad that, provided certain precautions in the collection of material are given, the actual procedure cannot go wrong. This is a fallacy which leads to many errors and increases difficulties that are quite sufficient already. In the case of the urine in a woman, to name a common example, it is not enough that the specimen should be *obtained* by catheter and allowed to run directly into a sterilised flask; the catheter must be passed with more aseptic precautions than even a trained nurse can be expected to possess. Indeed, a bacteriological training is the only thing that ever teaches any of us properly the ubiquity of micro-organisms, whether we are physicians or surgeons or nurses. The material collected must come from the actual lesion under investigation and not from surrounding parts, where often secondary infections, relatively unimportant, are present. The material collected, again, must be dealt with as promptly as circumstances allow, and the warmer the temperature at the time the more important this is. Many of the failures of vaccine therapy are failures in eliminating contaminations rather than failures in real trials of the method.

3. *The preparation of the vaccine* scarcely falls within the scope of this discussion, and I doubt if it matters much whether the material is prepared by heat or by autolysis or by the use of antiseptics. Of *sensitised vaccines*, however, I should like to say that I am quite convinced of their superiority to ordinary vaccines in the treatment of acute and of generalised streptococcal infections, having seen them successful when the older method has failed of a result. In the use of *live vaccine* I have had no experience.

4. *The question of dosage and of interval* is very important, although our knowledge is probably at present quite inexact as to both of these factors. We are guided by tradition and personal experience. The range of effective dosage without producing untoward results is probably quite considerable in man, as I was able by experiment to demonstrate is the case in animals. It must be so seeing that different workers give doses of the same vaccine in widely varying numbers and report equally good or equally negative results. Of the various systems of dosage the graduated system seems to have proved the favourite, beginning with a (presumably) subminimal dose and increasing to a dose beyond which it is thought or found that ill effects follow. This is the method I have found most generally useful in chronic infections. (Fig. 1.) In chronic infections that tend to recur (e.g., furunculosis) I prefer to graduate the doses in the reverse order also. (Fig. 2.) In acute infections my experience favours a steppage system of dosage (Fig. 3), giving three doses of increasing size at short intervals, followed by a pause, the second series beginning with the intermediate or final size used at the first series, and so on. I think this serial dosage is also the most useful in employing sensitised vaccine in acute affections. As regards the intervals between the doses, I usually allow the traditional seven to ten days in chronic cases, and 24 to 48 hours in acute cases, with pauses that are determined by the course of the disease and by the apparent effects produced.

FIG. 1.

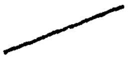


FIG. 2.

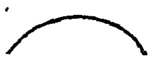
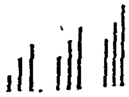


FIG. 3.



5. *Cautions to be observed* include relative rest of the patient and of the affected part for at least 24 hours after the inoculation, and the omission altogether, or the reduction in size, of any dose that is due if the patient suffers undue fatigue, a chill, a menstrual period, undertakes a long journey, or suffers an exacerbation of the condition for which treatment is being given. It is very doubtful if time is ever saved by hurrying; it is

certain that time is often lost by it. I feel convinced that I have several times seen patients rendered hypersensitive to a vaccine by unwise persistence, and requiring lengthy intervals before even small doses could be resumed.

6. *Attention must be paid to all the non-specific points in treatment* just as though the patient were not having vaccine treatment to supplement them. The general condition of the patient is a factor of great importance in getting the best effect from a vaccine; for this reason no therapeutic measure bearing on the state of the blood, nervous system, and general nutrition should be neglected. The response to a vaccine is a specific response, which we are unable by any other known stimulus to produce. All the same, this specific response is more likely to ensue, and ensue more effectively, if the patient's tone is good than if it is bad. Our object is not to see from what depths we can raise the patient by the miracle of a specific stimulus, but rather to supplement those general measures that have already raised him to a certain level, at which he now remains, until the extra leverage of the vaccine completes the process.

VII. *On Certain Problems that Remain.*

I have referred to the fact that certain *limitations* are demonstrable in the use of vaccines as prepared and administered according to our present knowledge. These limitations have already got far beyond anything that the sponsors of the method foresaw at its birth. No doubt we shall hear of several in the course of this discussion.

There are other problems that call for consideration. There is the problem of *recurrences*. A first result of vaccine therapy is often good, may even be brilliant, but cannot be relied upon a second time or, if obtained then, fails at the third trial, even though the method is exactly repeated and the bacteriological diagnosis is carefully revised. What happens here? Is it nothing more than we see in a good many diseases treated on non-specific lines—as in phthisis, for example, where the first chance is a good one, the second doubtful, and the third rarely worth having at all? If so, the problem is not a new one. But the question arises whether we have in some way exhausted the patient's available response to specific stimulation by this particular method.

Then there is the problem of the *generalised infections*, and especially of *malignant endocarditis*, in which, as yet, the results of vaccine therapy, including sensitised vaccines, give us such sparse results. Occasionally in streptococcal septicæmia a few doses of sensitised cocci produce a result which is little short of magical, and now and again a pneumococcal case, similarly treated, gives almost as brilliant a result. But for the most part these cases do not yield; for some reason unknown to us the key does not fit the lock.

There is also the problem of *typhoid fever*, in which, though assistance is undoubtedly rendered in very severe cases by vaccine, the course of an ordinary case is not, according to my experience, shortened or modified.

Harley street, W.

ROYAL SANITARY INSTITUTE.—The following medical practitioners have been elected members of the institute during the present month: Thomas Adam, M.D. Glasg., Tom William Beazeley, M.B. Birm., and Sydney Taylor Champtaloup, M.B. Edin.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

Vaccines from the Standpoint of the Physician.

A MEETING of this section was held on Jan. 27th, Dr. SAMUEL WEST, the President, being in the chair.

Dr. T. J. HORDER read a communication on Vaccines from the Standpoint of the Physician. His paper will be found in full on p 310.

The PRESIDENT, in opening the discussion, said that the term "physician" was meant to include all those who had the opportunity of watching the effects of vaccines from the clinical side He suggested as special points on which emphasis might be laid: (1) the contra-indications; (2) cases where vaccines had been used, had failed, and been abandoned, and the reasons for this; and (3) cases in which definite ill-effects had been produced by them.

Dr. J. CHARLTON BRISCOE commenced with some general remarks, giving reasons for the disappointment which had been experienced by some in results produced by vaccine therapy. He then mentioned three cases—a staphylococcic infection, an asthmatic case with a lesion in the nose, and a case of rheumatoid arthritis, illustrating the points: (1) that a vaccine injection tended to produce local necrosis; (2) the toxic symptoms alone might be relieved; (3) that an infected area ought to be completely removed in order to avoid the risk of a recurrence, even when a vaccine relieved the symptoms. Illustrating the first point, he quoted cases where empyema had followed vaccine injections, and gave a warning against the employment of this treatment in large lesions where drainage had not been effected. He claimed that vaccines diminished the amount and duration of the suppuration which followed the evacuation of pus, and materially assisted the closing of recent sinuses. Illustrating the second point, he remarked upon the striking success which followed the treatment of asthma by the eradication of some septic focus, or by treatment by vaccines grown from the sputum. He instanced three cases in which this treatment was a complete failure, to show that success did not always follow. Following this line of argument, he indicated that bacilluria, when causing symptoms, and rheumatoid arthritis were conditions which were readily relieved by vaccines. He recommended that where possible the infecting focus should be completely removed on account of the liability to relapse when the injections were discontinued. He then related some cases in which recognised treatment had completely failed where vaccines had produced good results. The cases instanced were (1) a staphylococcal cellulitis of the scalp; (2) a bacillus coli infection of the genito-urinary tract; (3) a non-tuberculous caseation of large size in the pelvis; (4) an acute pyrexial polyarthritis (not acute rheumatism); and (5) a bronchorrhœa of 30 years' standing. Finally, he drew the general conclusions: that vaccines were distinctly useful as a therapeutic measure, but should be employed in conjunction with recognised treatment; that all infecting focuses should be removed; that where such was not possible, vaccines might relieve symptoms; and he concluded that he had never seen a case where permanent injury had been produced by this form of treatment.

Dr. H. T. GILLETT said that the results in treatment by vaccines would depend not only on the use of an efficient vaccine, but also on the method of administering the doses. The intensive method of Fornet and Müller had not been successful in two cases in which he tried it, but gradually increasing doses allowing sufficient interval for recovery from any negative phase he had found very satisfactory. About 75 per cent. of his chronic bronchitis cases had responded favourably to an autogenous vaccine; some cases complicated with dyspnœa were very greatly benefited, but some chronic cases were obstinate. He had found that benefit had followed this line of treatment in the following diseases: leucorrhœa, rheumatoid arthritis, septicæmia, pneumonia, and bronchopneumonia; and had almost invariably used autogenous vaccines. On a few occasions he had used sensitised vaccines with good results, but where the patients' powers of response were adequate the ordinary salpingitis. The exceedingly sudden and agonising pain, attended often by vomiting and faintness, with perhaps loss of dark blood per vaginam, served to distinguish ruptured ectopic gestation, while careful bimanual examination would generally disclose a twisted pedunculated fibroid or ovarian cyst. Among diseases common to both sexes were perforated gastric or duodenal ulcer, with epigastric pain of intense and sudden nature, and a history of previous digestive trouble, which also occurred in acute cholecystitis. In typhoid fever with acute onset, a common source of error in which operation had been frequently performed, there was usually a low leucocytic count, the opposite being the case in appendicitis. Acute pancreatitis, strangulation and obstruction of the bowel, inflamed Meckel's diverticulum, renal colic, and malignant growth of the cæcum were among other conditions discussed by Mr. Fletcher, who concluded by emphasising the value of methodical examination and careful consideration of the history of each case.—An interesting discussion followed. Dr. Ryle referred to cases with associated inflammation of appendix and ovary.—Mr. A. H. Buck spoke of the impossibility of diagnosis in many cases even after operation, the exact starting point of inflammation not being traceable.—Mr. Willoughby Furner expressed doubt as to the advisability of a general anæsthetic in cases of appendicitis complicated with pneumonia.—Mr. C. N. Chadborn instanced difficulties in diagnosis from cases of lead colic.—Mr. Morgan discussed cases in which severe abdominal symptoms occurred shortly after labour where there had been slight appendicitis during pregnancy, and Mr. Parry cases following operation for adenoids.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Cancer of the Appendix.—Intestinal Toxæmia.

A meeting of this society was held on Jan. 21st, Mr. James W. B. Hodsdon, Vice-President, being in the chair.

Mr. J. M. Graham read a paper on Cancer of the Appendix, founded on 11 cases of primary cancer, and illustrated with many fine coloured slides. In 1906 Rolleston and Jones had been able to collect details of 37 cases of the disease. Subsequent careful examination of appendices showed the condition to be less rare than was thought. Over 200 cases had now been recorded. The author had found cancer in 6 cases out of a series of 500 appendices removed at operation, or in 1·2 per cent., a slightly higher percentage than Baldauf's 1 per cent. MacCarty and MacGrath in a series of 5000 appendices found cancer in 22 cases, or 0·44 per cent. The tumour was generally small and likely to be mistaken for a concretion embedded in the lumen, or for a diverticulum or a localised inflammatory nodule. In five of his (Mr. Graham's) series of cases it was only on splitting the appendix throughout its length that a tumour could be detected. A most striking fact about cancer of the appendix was its benign nature in most cases. Many names had been applied to the different types of cancer of the appendix, which, however, fell into two main groups: (1) Spheroidal-celled cancers; and (2) cylindrical-celled or colloid cancers. Certain differences could be noted between the two main types: (1) The spheroidal-celled cancer was much commoner; (2) the average age-incidence was 27·2 years; and (3) this type was extremely benign—only one case out of a series of 137 cases gave rise to metastases. As regarded the cylindrical-celled or colloid cancers, (1) these occurred in older patients as a rule, at the average age of 40 years; (2) they had a greater degree of malignancy—metastases occurred in six cases out of a total of 35 in this group; and (3) the average age in the six cases with metastases was 57·8 years. The prognosis must therefore be guarded in cases of cylindrical-celled cancers, especially in middle-aged patients. In the 10 cases of spheroidal-celled cancer described by the author the average age was 24·2 years. In only one case was the patient over 30 years of age. All the specimens but one were obtained at operation. In these cases cancer bore a close relation to appendicitis. In 4 of the cases the appendix was acutely inflamed. In 2 of these cases and in 6 of the others there were chronic lesions at the site of the tumour, suggesting the origin of the cancer at the site of an antecedent lesion. In one case at least the cancer had developed in an otherwise normal appendix, and in this case the tumour had undoubtedly excited the onset of appendicitis. The *site* of the cancer in 6 cases was at or near the tip of the appendix, while in the remaining 4 it was at the middle portion. The *size* of the tumours varied from that of a split shot to a bean. In distribution they occupied the mucous and submucous coats principally. The signs of local malignancy showed themselves in local invasion of the coats, which frequently reached the peritoneal surface and the fat of the mesentery. In 8 of the 10 cases the tumour was of a characteristic golden-yellow colour. In the other 2 cases it was greyish-white in colour. The lumen of the appendix was completely obliterated by the tumour in all but two cases. Microscopically the cells were small, round, or polyhedral and arranged in alveolar masses of varying size, as in scirrhus or encephaloid of the breast. In five of the cases the type corresponded to the scirrhous variety, in three to encephaloid; in two cases whilst mainly scirrhous, areas of tubular adenocarcinoma were present. The evidence in these two cases, which in other respects exactly resembled the rest of the cases in this group, sufficed to demonstrate the origin of these tumours from the secreting *epithelium of the mucosa* and to establish their carcinomatous nature. Vacuoles were fairly common in the cells. The detection of lipoids in the cancer cells explained the yellow colour of the tumours. Examination of frozen sections with the heated stage and polarising microscope showed that the lipoids were of the nature of myelin. This substance was present in the normal suprarenal cortex and in cells of hypernephromata, and explained the golden-yellow colour seen both in the latter and in the spheroidal-celled cancers of the appendix. As regards the relation of cancer of the appendix to obliterative appendicitis, it was probable that cancer of this organ frequently started (1) at the junction of the lumen with a previously obliterated portion; (2) in a partially obliterated lumen; and (3) in the site of a chronic lesion—e.g., ulcer of the mucosa. Certain cases, however, undoubtedly commenced in a healthy mucosa. The origin of a cancer in the narrowed lumen of a partially obliterated appendix would explain the complete obliteration of the lumen by most of the tumours. The changes observed in a series of obliterated appendices showed that (1) traces of the lumen often remained, though to the naked eye obliteration appeared complete; (2) isolated tubules in process of disappearance might be found; and (3) at the junction of obliterated portions the mucosa was often profoundly altered. It was probable that, as in gastric ulcer so in the appendix, chronic lesions might predispose to the origin of cancer. After-history of cases of spheroidal-celled cancer: Six patients reported themselves well at periods of 5, 3, 2½ years and a few months after operation. In no case in which subsequent history was ascertained were there symptoms suggesting recurrence. The eleventh case illustrated tubular adenocarcinoma and was very malignant. This case was that of a male patient aged 48. He had been in ill-health for 15 months suffering from indigestion and occasional vomiting. Pain was felt in the right iliac fossa, and a nodule was present at the umbilicus. At the operation the cæcum was found to be fixed by adhesions and the appendix was very hard, suggesting malignant disease, while secondary nodules were present throughout the peritoneum and in the omentum. The patient died three weeks after the operation, and on examination the specimen was found to be a cancer of the tubular type occupying the centre of the appendix and extending along the mesentery to the cæcum. The appendix beyond the cancer was completely obliterated by fibrous tissue. Conclusions as to the benign nature of the majority of appendix cancer cases, particularly the spheroidal-celled cancers: It might be thought that the spread of the disease to the cæcum would obscure the primary origin of many cases of such appendix cancer. This was not the case, because (1) cancer occurred rarely at the base of the appendix, (2) this type of cancer was rare in the cæcum, and (3) examination of cæcal cancers showed the appendix uninvolved or, if involved, its spread from the cæcum could be observed. Lymphatics drained from the appendix freely into the abdominal glands, and therefore there was no hindrance to the spread of cancer. Cancer of the appendix, especially in spheroidal-celled cases, must be of a naturally benign type, comparable to rodent ulcer, locally invading but rarely giving rise to metastases.—Professor F. M. Caird doubted if cancer of the appendix was as common as those

ıtistics would lead them to believe. He had only met with
o cases, and he invariably cut through every appendix he
noved. The characteristic colour of the tumour would
aw attention to the condition.

Dr. D. CHALMERS WATSON read a paper on Intestinal
ıxæmia, with Special Reference to the Indications for
ıerative Treatment. The paper was illustrated by X ray
ıotographs showing the position of the stomach and the
te of progress of a bismuth meal.—Mr. HODSDON said
at surgeons were greatly divided in opinion as to the
rm of operation. Lane believed that nearly all abdominal
s were due to intestinal stasis, and in severe cases he
cised the cæcum and large intestine. Others contented
emselves by fixing the cæcum if movable, and again,
hers by merely dividing adhesions.—Professor CAIRD had
served that in cases of definite stenosis of the pylorus the
tient almost invariably suffered from vomiting and pro-
unced constipation. After operation such cases improved
eatly and constipation disappeared. Adhesions might be pre-
nt and yet unassociated with symptoms. One met with cases
old peritonitis or ruptured gastric ulcers in which the whole
ils of intestine were matted together, and yet during life
e alimentary canal had been doing its work in normal fashion.
e had operated on a very intense and chronic case of con-
ipation in which the abdominal cavity appeared perfectly
ırmal, and the constipation entirely ceased after the opera-
on. He suggested reviving the ancient plan of raising the
tient's feet more by elevating the lower end of the bed and
ving a nightly dose of castor oil.—Professor WILLIAM
USSELL was not prepared to accept the interpretation
many of the X ray photographs which Dr. Chalmers
'atson had shown, or to accept many of the stomachs
normal, nearly all of them showing a definite degree
proptosis. Ptosis of the transverse colon was exceed-
gly common and could be diagnosed without X ray
amination; it might be extremely marked and yet
ıuse no symptoms whatever. How often and in what
stances were symptoms due to proptosis or delay in the
ıssage of the intestinal contents? That symptoms were
ıe to absorption of intestinal bacterial products as a result
dried fæces had
as certainly not i
ıew altogether the life-history of anaerobic organisms.
'hile he recognised that neurasthenia and rheumatoid
thritis might be greatly benefited by medical treatment,
by no means followed that all such cases were to be
garded as determined by intestinal conditions. As to the
fluence of kinks and bands in an intestine with any
obility, he was a profound sceptic as to fixing the cæcum
to the separation of bands or kinks. He admitted the
enefit of short-circuiting in certain cases, but it would not
lieve all symptoms. He doubted whether the colon was
ıat part of the intestine which ought to be attacked. Often
ıe stomach was at fault, and when short-circuiting was
one in this organ all the other symptoms were frequently
lieved.—Sir JAMES O. AFFLECK asked how, granting all
bout intestinal stasis, did toxæmia arise? Stasis must be quite
ommon, suggesting some defensive action which prevented
ıxæmia. Toxæmia might occur as a result of various
onditions—e.g., a fæcal ulcer causing diffuse abscess of the
ver or a general infection—while bacterial and chemical
ction must account for a good deal of the condition.
ittle had been said about the condition of the canal itself
nd how much it might be involved in the toxæmic condition.
n these cases of intestinal toxæmia medical treatment ought
be persevered in for a very considerable time. When one
as in a difficulty one was too apt to call in the surgeon.—
r. CHARLES W. MACGILLIVRAY had always held that the
hole of the alimentary canal prevented absorption of toxic
ıaterial unless it had become devitalised, as by inflam-
ıation. *Purgatives relieved a loaded bowel but irritated it*
t the same time, and so absorption of toxic products was
llowed.—Dr. H. TORRANCE THOMSON suggested that intes-
inal stasis was a local condition due to a general cause.—
Ir. GEORGE L. CHIENE thought that anchoring the bowel to
ny part of the abdominal wall was wrong. A simple
nastomosis into the transverse colon would give
he advantages without any of the disadvantages.—
Ir. J. W. DOWDEN said that most of these cases occurred
n youngish women, many of whom suffered from a floating
idney on the right side, due to compression of the ribs by
orsets. Short-circuiting in such cases had not in his experience given good results. It might be found that all the symptoms had been due to a small collection of pus in the appendix.—Mr. J. W. STRUTHERS said that an examination after a single bismuth meal could not be relied on. The interpretation of some of Dr. Chalmers Watson's findings was open to question. A proptosed colon might be a perfectly normal one. Adhesions were found frequently in children as well as in adults. These adhesions were so numerous that they must be anatomical conditions. Such adhesions were present in fœtal conditions. In the majority of cases Jackson's membrane, kinks, &c., had no effect on peristalsis and caused no hypertrophy of the bowel behind them. Short-circuiting was often disappointing. An enormous area was left in which putrefaction of the contents might take place and toxic absorption follow.—Mr. E. W. SCOTT CARMICHAEL said that greater experience allowed us to depend less and less on anatomical features as displayed in X ray photographs. The rate of progress of a bismuth meal must vary, not only in different persons, but also in the same person at different times. He thought that the screen gave better information. He thought that tacking down the cæcum or plicating it were operations of doubtful value.—Several other gentlemen took part in the discussion and Dr. CHALMERS WATSON replied.

EDINBURGH OBSTETRICAL SOCIETY.

Early Human Ovum.—Biometric Analysis of Insemination-Labour Curves and Menstrual-Labour Curves in Mammalia.

A MEETING of this society was held on Jan. 14th, Dr. G. F. BARBOUR SIMPSON, senior Vice-President, being in the chair.

Dr. R. W. JOHNSTONE gave a short account of the history of an Early Human Ovum which he had been investigating, and demonstrated the main points of interest in it by a series of colour-photographic lantern slides. The ovum, which was obtained *in situ* from a woman who had died suddenly from fatty heart, corresponded both in size and in the stage of development of the villi to the specimen described by Jung a few years ago, being probably about 16 days old. Unfortunately the specimen had received some damage before being hardened, and this had affected the contents of the blastocyst and rendered their interpretation a matter of some difficulty and dubiety. The woman died suddenly without having missed a menstrual period. The blastocyst contained two large vesicles each consisting of two large cells, and each attached definitely to the mesoderm of the chorion. If these represented the two vesicles of a single embryo, this double attachment was unusual. There was, however, some reason to believe that each vesicle represented a separate embryo, and that the specimen was one of uni-ovular twins. Owing to the damage received by the tissues, it was unfortunately impossible to be certain of this. In connexion with several of the slides Dr. Johnstone discussed shortly the nature and relations of the trophoderm and the mode of formation of the intervillous spaces.—Dr. BARBOUR SIMPSON remarked on the beautiful slides demonstrated by the epidiascope. The case was successfully established as one of early pregnancy, but whether it was a possible twin pregnancy, one could not dogmatise.—Dr. D. BERRY HART remarked on the interest especially of the slides relating to the development of the placenta. He believed the case to be one of undoubted pregnancy, and possibly twin, but he thought the embryonic structures must have died some time before the woman. There was a very good representation of the origin of the placenta, but the real embryonic part had degenerated.—Dr. JAMES YOUNG said that the changes which Dr. Johnstone referred to and so clearly demonstrated had amply convinced him that one had to look to a different explanation of the method of opening out of the maternal blood vessels and the establishment of the blood supply than that set forth in the orthodox t [illegible] demonstrated, it was an extremely [illegible] tended capillaries [illegible] result in pouring [illegible] (Dr. Young) had suggested this some years ago, and Dr. Johnstone's specimen had again clearly demonstrated that possibility.—Dr. J. HAIG FERGUSON, Dr. JAMES RITCHIE, and Dr. W. FORDYCE made remarks, and Dr. JOHNSTONE replied.

Dr. BERRY HART read a paper on a Biometric Analysis of Certain Insemination-Labour Curves and Menstrual-Labour Curves in some Mammalia. He first pointed out that in a previous paper he had stated that certain labour date statistics in cattle (by Spencer) and in ewes (by Tessier) and in the human female (by von Winckel and Reid) when flattened out and grouped in 48 or 96 hourly periods gave a frequency polygon, somewhat skew or humped. It was necessary, however, to flatten out these curves in 24 hourly periods, and then see how they could be treated by Gauss's method of least square. In Spencer's cattle statistics there were 764 animals, and the sum of their days between insemination and labour was 216,451; this divided by 764 gave a mean of 283·3 days. The sum of the square differences between the mean and the actual dates gave 60,649, and the probable error of one observation was found to be 6·012 days. The probable error of the mean was 0·218. Thus are calculated from the date of insemination in cattle a period of 283 days with a probable error of plus or minus 6 days. In Reid's 500 human cases treated in the same way the mean was 278 and the probable error of one observation was 7·748; the probable error of the mean was 0·3466. Thus the date of labour reckoned from the last day of menstruation should be 278 days plus or minus seven days; but the most probable duration was 277·93 or 278·63 days.—Dr. JOHNSTONE said that Professor Arthur Robinson, who had been investigating the subject in ferrets, informed him that if one took a number of ferrets that were inseminated on the same day and then killed them at an early stage of development the embryos were found to be in considerably different stages of development. But when a similar number of ferrets were allowed to go on to full time, then the insemination-labour curve was practically uniform. Apparently from that statement development must go on at a different rate in different embryos, and must in some instances make up for lost time. —Dr. BARBOUR SIMPSON, Dr. HAIG FERGUSON, and Dr. J. LAMOND LACKIE made remarks on the paper, and Dr. BERRY HART replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Exhibition of Cases and Specimens.—Radical Operation for Chronic Osteomyelitis.—Stone and Tumour in the same Kidney.

A MEETING of this section was held on Jan. 9th, Dr. R. D PUREFOY, the President, being in the chair.

Mr. SETON S. PRINGLE showed three examples of operation for disease of the bowel. (1) An excavating ulcer on the lower end in a man aged 65. It was carcinoma of the bowel, and was removed by the combined abdominal and perineal method. (2) A ring stricture of the sigmoid. The case came to him as one of acute obstruction, and the bowel was resected three days later, and the patient was doing well. (3) Sarcoma of the small intestine close to the ileo-cæcal valve. The patient, aged 65, when first seen was thought to have cancer of the cæcum. Radical operation was done and several feet of the ileum removed and an anastomosis made between the ileum and the transverse colon. The patient was now out of hospital and gathering strength.—The PRESIDENT asked how long the symptoms of obstruction continued in the case of cancerous cæcum before there was anything to point to more than increasing constipation. He considered there was much difficulty in trying to decide in those cases as to whether there was really malignant disease. —Mr. W. PEARSON inquired why in the case of acute obstruction a cæcostomy was done, since the contents of the bowel from the cæcum were extremely irritating to the skin. He indicated that he would have preferred to do a colostomy in the transverse colon.—Mr. A. J. McA. BLAYNEY said that in dealing with certain cases of acute obstruction a very distended abdomen was usually met with, and the operator had no means of determining the position of the growth. He suggested that the first thing to do was to make an incision in the middle line. He had experienced no irritation of the skin after cæcostomy, although such might be expected.—Professor W. TAYLOR considered the specimens of very great surgical interest. He thought that in cases of cancer with obstruction in the large bowel the procedure mentioned by Mr. Blayney was the best—i.e., to deal with the obstruction by means of a temporary opening in the cæcum. He agreed that the cæcum was always very much distended in these cases. He could speak from some experience of the very beneficial effects of a cæcostomy preliminary to the major operation.—Mr. W. I. DE C. WHEELER mentioned that five years ago he advocated drainage of the intestine through the cæcum, and he had since no reason to regret this. He could never see any practical objection to cæcostomy, notwithstanding anything said in the text-books.—Mr. PRINGLE, in reply to the President, said that that patient had increasing constipation for a year, and there was obstruction for over ten days. There was no question as to the diagnosis. An aid in such cases was the administration by mouth of a bismuth meal, supplemented by bismuth given through a tube. Another method was the use of the sigmoidoscope. He had found the latter to be quite safe. Regarding cæcostomy, he would always do it when there was a chance of carrying out a radical operation. He had not found that it gave rise to irritation. He recognised the necessity for dealing with as wide a lymphatic area as possible.

Mr. WHEELER showed specimens of Complete Colectomy for mucous colitis, Spindle-celled Sarcoma of Thigh, and Cancer of Stomach, in a patient aged 27.—Mr. C. A. K. BALL mentioned a case of spindle-celled sarcoma in which the patient complained of an abscess in the thigh. This was opened, and the pathological report was that it was a fibroma into which a hæmorrhage had taken place. Six months afterwards a small hard lump occurred in the thigh; this was removed and found to be a spindle-celled sarcoma. It again recurred on two occasions, but the patient recovered, and was well now for over three years.—The PRESIDENT, referring to the case of mucous colitis, inquired what was the prognosis as to the general health of the patient. These were shocking cases to have to deal with, but he thought he could recall some in which the condition disappeared.—Mr. WHEELER replying, said that the patient had no mucous colitis now, and, as far as the bowels were concerned, they were regular. He had been treating the case for two years before doing the colectomy.

Mr. PRINGLE read a communication on Radical Operation for Chronic Osteomyelitis. He first called attention to the unsatisfactory results obtained by the old "gutter" operation. He believed sinuses persisted after this operation because a cavity was left with hard bony walls which could not fall in and assist in obliteration of the space left. He advocated removal of the greater part of the shaft of the bone in such a way that the soft tissues were able to fall in and obliterate any cavity left. In some cases he advocated complete subperiosteal resection of the shaft of the bone.—Mr. BLAYNEY considered this the most important paper read at the section for some time, as it represented a definite step in the treatment of those very troublesome cases. Since he first heard of the procedure he had been carrying out the operation with very satisfactory results.—Mr. WHEELER congratulated Mr. Pringle, and said that he had recently adopted the method in the case of a man suffering from chronic disease of the tibia, and although there was a fracture in the strip of the bone left it gave rise to no trouble afterwards. He was extremely interested in the resection of the bone, as he had been carrying out this in children. He had demonstrated that the periosteum did form bone in children, and the process could be seen in X ray photographs.—Dr. H. DE LISLE CRAWFORD said that he had experience of four cases where the disease spread to the epiphysis, in which he found that the dead bone extended to the end, and that in every case there was a large cavity.—Mr. PEARSON said he thought the periosteum was to be regarded as bone surface. He recalled a case in which there was no necessity for peeling off the periosteum at all, and the entire wound was healed in four weeks.—Mr. PRINGLE, in reply, said he thought that in childhood there was a certain number of osteoblasts lying in the periosteum. There was no doubt that in some few cases the periosteum failed to regenerate bone.

Mr. BALL described a case of Stone and Tumour in the same Kidney. The patient, a man aged 45, had complained for two years of a more or less continuous pain in the region of the right kidney. He had twice passed blood—once about two years ago, once a few days before he came for treatment. The only point noted on examination was a slight but decided tenderness when the right kidney was palpated. The urine contained no blood, pus, albumin, or tubercle bacilli, and beyond a few uric acid crystals nothing abnormal was made out microscopically. An X ray examination showed a small calculus in the pelvis of the kidney. The kidney was therefore exposed by an extraperitoneal incision with a view to removal of the stone, and a tumour was found on the convex border of the kidney, which was therefore removed with the stone *in situ*. The tumour was microscopically a cystadenoma.—The PRESIDENT recalled a case of a large abdominal tumour which he thought was an ovarian cyst, but it proved to be a cystadenoma of the left kidney. Mr. Ball's patient was to be congratulated on having the cyst removed when it was of small size.

Dr. CRAWFORD demonstrated an intestinal drainage trough planned as an effectual means of quickly emptying intestine distended with gas and fæces while preserving the surgeon's gloves and the patient's peritoneum from contamination. The apparatus consists of a metal trough closed at one end by a strong rubber dam, the other leading into a funnel attached to a long piece of rubber tubing. Two long intestinal clips rest in notches cut in the wall of the trough, and the whole is supported on two flat plates of metal. A hole is cut centrally in the dam and the assistant presses a distended loop of bowel against this from the outside, so that a portion of the wall protrudes into the vessel. The operator catches this protrusion with the intestinal clips and secures it by slipping their handles into the notches, thus stretching the rubber and providing a watertight contact. The intestine is then emptied and the cut sutured, using a needle-holder and tying the sutures with a forceps so that there is no risk of infecting the gloves.

MEDICO-LEGAL SOCIETY.—An adjourned discussion of the paper by Dr. Robert Armstrong-Jones upon the urgent need for legislation to permit of the treatment without certification of early cases of insanity, the so-called incipient insanity, took place on Jan. 20th last at 11, Chandos-street, Cavendish-square, W., under the chairmanship of Earl Russell. The paper was published in full in THE LANCET of Jan. 17th, p. 195.—Dr. C. Hubert Bond, one of the Lunacy Commissioners, in opening the discussion, pointed to the need for safeguarding early cases of mental disease against those persons desirous of making money out of their affliction. He referred to the shame felt by the friends of mental cases when it was necessary for them to undergo treatment and the need for privacy which tended at times to overshadow the patient's welfare. He suggested that the term "incipient" would need to be carefully defined to prevent abuse, and it must possibly have application to a time limit from the first onset of symptoms, and to apply to the first attack, or only the early stages of subsequent attacks. He was against an official list of homes, as this might tend to the extension of licensed houses; and he was not officially in favour of what has been described as "single care"—particularly if a definite line of treatment had to be followed. He expressed the sympathy of the Lunacy Commissioners with the desire for greater freedom to treat mental cases in their earlier stages, but with due safeguard against abuse.—Mr. John Carswell described the system in vogue in Scotland for the poor insane, and pointed out the closer connexion between lunacy administration and that of the Poor-law in Scotland than in this country. In Scotland it is also permissible to treat cases of insanity in private homes for a period up to six months without certification, but with notification from the medical attendant that this course was desirable in the interests of the patient.—Mr. James Devon, one of His Majesty's Prison Commissioners for Scotland, also spoke of the necessity for recognising the need for early treatment, and the advantage to the sufferer if this could be done without sending him into the asylum.—Dr. F. S. Toogood described how much was being done in the Lewisham Infirmary under the present law, which admitted a needy case into the Poor-law infirmary and where such a case could be treated for 28 or 31 days under the present lunacy law. He stated that nearly 50 per cent. of all the cases got well within that period and were thus saved from the stigma of the lunacy certificate, which implied a money saving also to the guardians, who were thus freed from the expense connected with certification, removal, and maintenance of the patient during detention in the asylum.—Dr. Henry Rayner quoted his experience in the out-patient department of St. Thomas's Hospital, and was entirely in favour of a change in the law which he himself had been advocating for many years.—Mr. P. T. Blackwell urged that greater freedom should be allowed in treating mental cases in the early stages subject to certain safeguards, and his remarks were supported by Mr. M. I. Finucane.—Dr. O. T. Ewart warmly supported the scheme, and Mr. H. F. Keene, the clerk to the Asylums Committee of the London County Council, related what had already been done by his committee, and he outlined the proposals in respect of treatment in the new Maudsley Hospital.—Sir William J. Collins also summarised the discussion in a clear, eloquent, and practical speech, and Dr. Robert Armstrong-Jones replied.—The following resolution was then formally proposed by Earl Russell and unanimously agreed to:—

> That this meeting of the Medico-Legal Society is of opinion that [illegible] be [illegible] was [illegible]

There was a full attendance of members and visitors.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The annual meeting of this society was held in Manchester on Jan. 16th, when Dr. J. H. Willett (Liverpool) was elected President.—Dr. W. E. Fothergill (Manchester) described a case of Fatal Toxæmia of Pregnancy complicated by Vesicular Degeneration of the Chorion. A woman, aged 26, was admitted as an urgency during the seventh month of her third pregnancy. She was delirious. The abdomen was enormously distended by free fluid. The legs and labia were much swelled. The urine contained a large quantity of albumin. The os was closed and there had been no bleeding; it was dilated under ether and the hydatid mole was then diagnosed. The fluid having been removed by an abdominal incision, supravaginal hysterectomy was rapidly performed. The uterus was the size of one eight months pregnant. Its wall was everywhere very thin, but it was not perforated by villi. The whole cavity was filled with vesicles of degenerated chorion. The ovaries were normal. The patient improved for a time, she became rational, took food well, and was free from œdema and hydroperitoneum. Later the toxæmia from which she was suffering on admission regained the upper hand. The legs and labia again swelled and the abdomen once more became filled with fluid. The delirium returned, albumin reappeared in the urine, and the patient died 27 days after the operation. Unfortunately no post-mortem examination was permitted.—Dr. J. Howie Smith (Stockport) showed a Uterus Didelphys, both horns of which had been pregnant at separate times. After giving birth to a macerated premature fœtus the placenta was adherent and the patient died from shock. The uterus was in two completely separate halves which were only joined between the cervices. One-half had been pregnant some years previously and the cervix was much hypertrophied; the other was the one from which the recent child had been delivered.—Dr. H. Leith Murray (Liverpool) read a note on three cases of Pyelitis Developing after Delivery. The cases were atypical (1) in presenting no localising signs or symptoms; (2) in showing a "continuous" fever; (3) in the small amount of pus present in the urine of patients rather seriously ill; and (4) in the onset on the day following delivery. He was inclined to think that this type might contribute to puerperal morbidity more largely than was thought. The condition easily eluded diagnosis if the urine was not centrifuged. Vaccines were of marked service when intelligently administered. The action of urotropin, aided by acid sodium phosphate, should always be controlled by an investigation of the formalin actually formed in the urine; the larger doses of Thomson Walker were strongly recommended.

ROYAL ANTHROPOLOGICAL INSTITUTE.—The annual general meeting of this institution was held on Jan. 20th, Professor A. Keith, the President, being in the chair.—After the reports of the secretary and the treasurer had been read and adopted and the council for 1914 elected, the President gave an address on the Reconstruction of Human Fossil Skulls. He maintained that the ordinary anthropological methods which were employed for the examination and description of complete skulls were not applicable to fragmentary fossil skulls. During the last six years he had endeavoured to discover and perfect methods which might be employed in the reconstruction of skulls from fragments. Recently fragments of a human skull, representative of the pieces of a fossil human skull found at Piltdown, had been submitted to him for reconstruction. A cast of the original skull was kept by those who submitted the fragments to him. There was no apparent trace on the fragments of the middle line along the vault. The reconstructed skull with a cast of the original was submitted to the meeting. The cranial capacity of the original skull was 1395 c.c.; the estimated capacity of the reconstruction was 1415 c.c. As regards width and auricular height the reconstruction and original were in almost complete agreement—the difference being less than 2 mm. In length, however, there was a considerable discrepancy, the reconstruction being 5 mm. longer than the original. The difference was due to the peculiar character of the forehead of the original and also to a mistake as to the probable sex of the skull. The reconstructed skull had been provided with eyebrow ridges of the male type, whereas in the original they were definitely female in character. Tracings of the reconstructed skull were exhibited side by side with similar tracings from the lecturer's reconstruction of the Piltdown skull to show that the problem of reconstruction was the same in each case, and that in all dimensions the cranial cavity of the Piltdown skull was larger than the test skull submitted to him.—At the close of the address Professor G. D. Thane, in moving a vote of thanks to the President, expressed his admiration at the fidelity with which the task of reconstruction had been carried out, and the exact methods which had been employed by the lecturer in his task.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at St. John's Hospital, Leicester-square, on Jan. 20th, Dr. Morgan Dockrell, the President, being in the chair.—Clinical cases were shown by Dr. J. L. Bunch, Dr. W. Griffith, Dr. S. Gooding, the President, and Dr. W. K. Sibley, the last-named of whom opened an adjourned discussion on a paper by Mr. W. Hampson on the Dosage of X Rays.—Dr. Griffith and Dr. Kempster joined in the discussion, and Mr. Hampson replied.

ROYAL METEOROLOGICAL SOCIETY.—The annual general meeting of this society was held on Jan. 21st at the Institution of Civil Engineers, Mr. C. J. P. Cave, M.A., the President, being in the chair. The council, in their report, referred to the various branches of work which had been carried on by the society during the past year. These included researches in the upper atmosphere, meteorological lectures, the collection of phenological observations, and the commencement of the preparation of a series of normal values of the climatological elements of the British Isles. The President presented to Mr. W. H. Dines, F.R.S., the Symons Gold Medal for 1914. Mr. Cave, in his presidential address, dealt with the subject of Upper Air Research. He pointed out that research in the upper air may be by means of manned balloon with observer and instrument, or by self-registering instruments sent up in kite, captive balloon, or free balloon. Kites were first used for this purpose by Dr. Wilson, of Glasgow, 1749; and also in Arctic expeditions in 1821 and 1836. The box kite and the use of steel piano wire instead of line enabled greater heights to be obtained. The use of kites was not taken up in England till 1902, when Mr. Dines flew them from a steamer. The President next referred to the various types of instruments used in the research. Rubber balloons are usually used, and as they ascend they tell of the winds above the surface, a special theodolite being used for observing balloons. The International Commission for Scientific Aeronautics directs the studies for upper air research and special days are arranged for international ascents of balloons and kites. The first great result of these researches has been the discovery that the atmosphere is divided into the troposphere, where the air is in constant movement, horizontal and vertical, and the stratosphere, where turbulent motion seems to cease. The stratosphere begins at about 7·5 miles in these latitudes. The method of investigation is new, but it seems as though changes of weather do not begin at the surface of the earth, but are dependent upon movements taking place about 7·5 miles up.

Reviews and Notices of Books.

Studies in Cancer and Allied Subjects.

From the Departments of Zoology, Surgery, Clinical Pathology, and Biological Chemistry. Conducted under the George Crocker Research Fund at Columbia University. Vol. III. New York: Columbia University Press; London: Henry Frowde. 1913. Price $5.00. Pp. 308.

VOLUME III. of the George Crocker Special Research Fund deals with studies from the Departments of Zoology, Surgery, Clinical Pathology, and Biological Chemistry, and includes over 30 papers, some of which, however, are comparatively short and are to be regarded as what the Germans call "Vorarbeiten."

From the Department of Zoology we have first of all a report of the work of the department (1909–11). Next, Gary N. Calkins gives an account of Regeneration and Cell Division in Uronychia and the Effects of Mutilations by Cutting on Paramœcium. Both are substantially reprints from the year 1911. The regeneration problem in uronychia was studied in relation to cell division. It has been generally assumed that a protozoon is able to regenerate at all times with equal facility. This is found not to be the case. This organism when cut takes more than twice the time to divide—three days—than under normal conditions. To explain this it is assumed that substances are formed in the nucleus and transferred to the cytoplasm, where they, or the products of their activity, accumulate until a condition analogous to saturation is reached. Cutting the cell at this period results in the exhaustion of these substances by the process of regeneration, so that cell division is retarded in forms where such division is not already started. Are these hypothetical formative substances of the nature of enzymes? In the cutting experiments on paramœcium it was seen that in addition to profound effects on the power of division of the cells themselves, abnormal growths or "monsters" were formed. In uronychia the power of regeneration is a factor of cell age, increasing as the cell grows older after division, until a maximum power is attained just prior to cell division. In paramœcium the regeneration is very poorly developed, and the nuclear apparatus is more concentrated. From paramœcium to a cancer cell is a far cry, but in general biology a cell is a cell and an organism an organism, regardless of the position in the animal scale, and biological principles are applicable to all. The experiments show that even a minute mutilation of the cell may throw the entire mechanism out of gear, with loss of the power of regulation. In a divided paramœcium, if the nucleus is injured by the knife, neither part lives more than a few hours. Cell division and cell regeneration are entirely independent phenomena.

Then follow short papers on Growth of Tissues under Experimental Conditions, Spontaneous Tumours, Efforts to Bring about Chronic Irritation, Earthworm Experiments, by F. D. Bullock. The same author, along with G. L. Rohdenburg and others, gives an account of Tumour Tissue in Collodion Sacs, Retrograding Tumours, Inoculation with Two Types of Tumours, Effects of Chemical Irritants on the Type of Tissue Resulting from Chronic Irritation, and the Relation of Certain Internal Secretions to Malignant Tumours. There is a short note by P. J. Johnson on Data on Tumour Growth in Relation to Age and Sex of Rodenst.

Mice were inoculated with carcinoma and rats with sarcoma. In some of the communications the number of experiments is very small. The paper on the effects of chemicals after chronic irritation (1911, reprinted) is suggestive. In experiments on rats the most noteworthy results were obtained after injection with xanthin. The investigations, admittedly incomplete as they are at present, suggest that perhaps the end or intermediate products of protein metabolism may affect, not only connective tissue, as xanthin apparently can, but also the epithelial structures. The conclusions drawn from the research on internal secretory glands and tumour growth are to a large extent negative.

From the Department of Surgery there is a reprint (March, 1912) on the Development of the Blastoderm of the Chick *in vitro*, based on the work of Harrison (1907) on the growth *in vitro* of nerve fibres of the frog embryo, of that of Carrel and Burrows, and other transatlantic investigators. From the Department of Clinical Pathology there are three papers by William H. Woglom, entitled "Resistance Produced in Mice against Transplanted Cancer by Auto-inoculation of the Spleen" (published in 1910); "Mice Immunised Subcutaneously are Resistant to the Implantation of Cancer in Internal Organs" (reprinted from THE LANCET of July 8th, 1911, p. 92), and "Contributions to the Individuality of Carcinomata" (published 1911).

From the Biological Department there is first an account of the original programme set forth by William J. Gies. The difficulty of obtaining access to "satisfactory cancerous supplies from human beings and to study cancer patients" led to investigations in directions other than those first proposed. There are five contributions on Methods for the Diagnosis of Cancer, by J. W. Weinstein, Jacob Rosentloom, and others, dealing with, *inter alia*, the tryptophan and glycyltryptophan tests for cancer of the stomach, and the importance of colloidal nitrogen of the urine in the diagnosis of cancer. Then follows an account of the composition of protoplasm and the nature of the structural and dynamic relationships of cell constituents and products by various contributors, and a Study of Lipins—i.e., of lipoids. As to "the glycyltryptophan test of Neubauer and Fischer (1909), it yields positive results in practically all cancer cases, and hardly ever in any others." These tests are obviously of import for the clinician. For details, technique, and sources of errors of the tests, and the data on which the above conclusion is based, we must refer to the original paper. The author states: "I am confident that the tryptophan test out-ranks every other available laboratory means for the diagnosis of cancer of the stomach." The report on the lipins is particularly interesting. These substances play an important part, not only in relation to the enveloping membranes of cells, but also to the cytoplasm itself, of which they form an integral part. Throughout the text the work of the Imperial Cancer Research Fund is freely drawn on and duly acknowledged.

Kurzgefasste Lehre von den Knochenbrüchen.

Von Dr. F. de QUERVAIN, unter Mitarbeit von Dr. TH. CHRISTEN, Dr. H. ISELIN, und Dr. H. ZUPPINGER. I. Teil. Leipzig: F. C. W. Vogel. 1913. Pp. 140. Price, paper, 9 marks; bound, 10 marks.

THE principles of treatment of fractures in this country and in Germany have differed so much in the past that a review of the differences is useful, and probably each country may with advantage learn from the other. The present volume, the first part of a treatise upon fractures by these well-known Swiss surgeons, deals with the principles involved in the production of fractures, in the deformities produced, and in the methods of treatment. It deserves attention, for in it is included a most careful study of theoretical considerations, as well as a very complete account of methods of treatment, more particularly by continuous extension (comparatively new apparently in German countries) and by the use of the semiflexed position of joints.

Continuous extension in the treatment of fractures is old; it dates from the time of Avicenna. But so far as Germany is concerned its development has been to a large extent arrested during the nineteenth century by the attention paid to complete immobilisation by such methods as the application of plaster-of-Paris. The principle of the relief of tension in the muscles by the use of the semiflexed position, together with that of the fixation of the joints above and below a fracture, was enunciated for the first time by Pott. These principles also have been rather neglected, although they deserve a careful study. Perhaps there is a tendency to put a little too much stress upon the production of deformity in fractures by the pull of muscles, and to pass over the displacement due to the direction of the force of the original injury and to the action of gravity. The differentiation of displacements due to these forces, and not liable to recurrence after reduction, from those due to the action of muscles which do tend to recur and therefore require the use of a continuous extension, is an essential preliminary to the enunciation of the principles of treatment of fractures.

Most of the methods of treatment referred to in this volume have at some time been used in this country; some have survived to the present day; others—for example, the use of the semiflexed position—have disappeared; but in any case Professor de Quervain's very careful examination of principles is worthy of study by all those interested in the treatment of fractures.

Epidemic Infantile Paralysis (Heine-Medin Disease).

By Professor PAUL RÖMER. Translated by H. RIDLEY PRENTICE, M.B., B.S. Lond., M.R.C.P. Lond. With 57 illustrations in the text. London: John Bale, Sons, and Danielsson. 1913. Pp. 208. Price 7*s*. 6*d*. net.

Professor Paul Römer's book on epidemic poliomyelitis is already familiar to the neurologist and physician conversant with the German language, and it has justly earned a notable reputation both for the experimental work of its author and for his fine appreciation of the difficulties and problems that the disease still presents from the biological and public health points of view. We compliment Dr. Prentice on his recognition of the wider eminence which the book deserves, and also on his admirably smooth rendering of the original German.

A full and comprehensive description of the various clinical types of the disease as it occurs in man is followed by an excellent chapter on the etiology of the disease, in which the author's experiments on apes are carefully narrated and their significance analysed. The chapter on the pathology and pathogenesis of the disease leaves nothing to be desired for complete and critical investigation. The epidemiology of poliomyelitis, the possibility of immunity and immunisation, experiments with specific antibodies and with drugs, and the question of prophylaxis and State regulation, are other topics handled in the same judicious and discriminating way. There is a bibliography of some 20 pages as well as a good index.

In its English garb we are convinced that Professor Römer's text-book will attain that wider circulation and appreciation which it deserves.

The Mutilated Hand and the Workmen's Compensation Act, 1906, having Special Reference to "Missing" Fingers.

By J. J. SCANLAN, L.R.C.P. & S. Edin., D.P.H. London: The Scientific Press, Limited. 1913. Pp. 98. Price 2*s.* 6*d.* net.

THIS little volume is neither a legal nor a medical text-book, but it will be found a conveniently arranged and instructive guide by members of either the medical or the legal profession who are engaged in compensation cases. Devoted as it is to the study of one important group of accidents coming up for compensation in the county courts, the book contains many useful and practical suggestions for the benefit of medical examiners, advocates, and arbitrators; yet it is not sufficiently bulky to rank as an exhaustive treatise upon a subject the further study of which may be pursued, if necessary, through the pages of other works.

The author has been struck with the abuse that has arisen in claims for damaged hands through the absence of any schedule of fixed amounts for definite injuries. He is inclined to the opinion that sufficient data now exist for the framing of such a schedule in the case of major accidents (such as those involving most of the fingers), subject to every case receiving due consideration upon its surgical, medical, and practical merits. County court judges who have awarded compensation for the loss of fingers will do well to study Mr. Scanlan's accounts of workmen who, having spent their "lump sums," have returned to work at full wages. Some of the points also which the author makes with regard to the objects to be aimed at in assessing and applying compensation of this kind might be studied usefully by members of the legislature anxious to assist the working classes, as well as by judges and those interested as expert witnesses.

Treatment of Internal Diseases.

By Professor NORBERT ORTNER, of the University of Vienna. Edited, with additions, by NATHANIEL BOWDITCH POTTER, M.D., Assistant Professor of Clinical Medicine at Columbia University, New York. Translated by FREDERICK H. BARTLETT, M.D., Instructor of Children's Diseases at Columbia University. Second edition in English, revised and reset from the fifth German edition. London and Philadelphia: J. B. Lippincott Company. Pp. 643. Price 21*s.* net.

THE fifth German edition of this well-known work, which is intended alike for practitioners and students, contains so many alterations from and additions to the previous ones that it has been found necessary to revise completely and reset the translation for the second English edition.

The work is entirely confined to a consideration of the treatment of internal diseases, and physiology and pathology are referred to only to indicate the principles of rational treatment. Throughout the whole volume Professor Ortner emphasises the importance of the mechanical, dietetic, climatic, hydrotherapeutic, and other extra-medicinal methods, giving judicious reasons for those selected. A description follows of these methods with a discussion of the applicability of certain drugs, their respective advantages, disadvantages, and limitations. The author adds useful prescriptions from his own experience and that of others, and so leaves the practitioner who studies this book better prepared to meet etiological indications, and the various contingencies which arise and require symptomatic treatment.

Professor Ortner's remarks are of an essentially practical character, and will be found of special value for reference—that is to say, the book may be consulted as an aid in actual practice. The various diseases are taken in order, commencing with the disorders of the circulatory organs, and detailed descriptions are given of the therapeutical measures which should be adopted. The prescriptions have been altered to conform to the American Pharmacopœia, and the equivalents in the English scale of measures have been added to the metric quantities. In this new edition there are a number of changes in the prescriptions and in the indications and recommendations for modern drugs. The references under climatology, hygiene, and dietetics have been adapted to the needs of the American practitioner and student, but although the work is intended primarily for American readers, practitioners in this country should fully appreciate the value of the information to be gleaned from a study of Professor Ortner's observations. Numerous practical suggestions will be found scattered through the pages of the book.

Treatise on General and Industrial Organic Chemistry.

By Dr. ETTORE MOLINARI. Translated from the second enlarged and revised Italian edition by THOMAS H. POPE, B.Sc., A.C.G.I., F.I.C. With 506 illustrations. London: J. and A. Churchill. 1913. Pp. 770. Price 24*s.* net.

THIS volume is a companion to the "Treatise on General and Industrial Inorganic Chemistry," by the same author, which was reviewed in our columns of Feb. 1st, 1913. The translator of the work on industrial inorganic chemistry was Dr. Ernest Feilmann, and the translator of the present volume is Mr. Thomas H. Pope, of the School of Malting and Brewing in the University of Birmingham. Both translators have adopted much the same methods in rendering the Italian into English, prices in general being given in British currency, while temperatures throughout are given according to the centigrade scale. It would have been an advantage, however, if the translator had included a table of equivalents of English and Italian measures. That the applications of organic chemistry in the industries are as important and numerous as the applications of inorganic chemistry is to some extent illustrated by the fact that both volumes are of much the same size, the work on inorganic industrial chemistry claiming 704 pages and that on organic industrial chemistry 770 pages. The development of organic industrial chemistry has been comparatively recent, and probably its greatest stimulus has been the foundation of the coal-gas industry, which gave rise to an almost illimitable series of valuable products that have found useful application in human affairs. We need only mention the output of hydrocarbons, dyes, disinfectants, medicinal synthetics, and ammonium salts. When, further, we bear in mind that soaps, glycerine, alcohol, sugar, milk products, textiles, tannins, and so forth, count as products of industrial organic chemistry we obtain an idea of the ground traversed in this volume.

It is due to the author to point out that his treatment of the subject matter is cosmopolitan in character, and it would be a mistake to suppose that because the book is the work of an Italian authority the technique described applies only to local methods. This is not the case, for our examination has shown that the author has been careful to give an account of the technological methods adopted in all the manufacturing countries which take an important place in the industrial world. A very valuable feature of the book is the inclusion of the statistics bearing upon production, exportation, and importation in different countries, while the figures given, which refer to the prices of various commodities to date, will also be appreciated by the technological student. There is not much of direct interest to the medical reader, but there is a vast amount of information bearing upon the important position which applied chemistry occupies in industrial affairs. To those attending a course of instruction in chemistry with special reference to industrial applications the book should prove of distinct service.

Les Hystérotomies Vaginales en Obstétrique.

By Dr. ANDRE WILHELM, de la Faculté de Médecine de Paris. Paris: Legrand. 1913. Pp. 244.

VAGINAL hysterotomy is not regarded with great favour in France, and the author of this monograph has done well to collect for the information of his fellow practitioners most of what is known about this operation. As he shows, the procedure permits of the rapid evacuation of the uterus when the cervical canal is closed or incompletely dilated, while the modifications produced by pregnancy in the cervix and lower uterine segment render its execution easy and without danger. In order, however, to render the operation of this character it is necessary to have a sufficiently large opening, and this can be obtained by making a median incision both of the anterior and of the posterior lip of the cervix. The accidents that may occur, such as hæmorrhage, opening of the peritoneum, tears of the uterus, and lesions of the bladder, are not as a rule seen if the technique is good. The ultimate results are generally favourable, and the small number of cases in which pregnancy has subsequently occurred show that the lower uterine segment is not permanently damaged.

Certain conditions are necessary, such as not too large a child, the absence of any pelvic contraction, or of any atresia of the vulva or vagina, and the absence of infection. In these circumstances the operation may be carried out in certain pathological conditions in which an abdominal section is [illegible], while [illegible] of the [illegible]. Some [illegible] en the uterus is to be emptied are eclampsia, retroplacental hæmorrhages, and grave heart disease. The operation should not be practised in cancer of the cervix or in cases of placenta prævia, but it is particularly useful in cases of premature delivery when it is necessary to empty the uterus rapidly. Dr. Wilhelm also considers that this measure might be employed for the rapid delivery of the moribund mother or immediately after her death. Finally, he concludes that the operation is of real value and that it should find a place in the practice of the French obstetrician.

A Clinical Manual of Mental Diseases.

By FRANCIS X. DERCUM, M.D., Ph.D. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 425. Price 13*s.* net.

THIS work, based upon the lectures annually delivered by the author at the Jefferson Medical College, Philadelphia, is designed for both the practising physician and the medical student. With the aid of the descriptions given of the various symptoms presented by patients suffering from mental disorder the student should be able to form a clear idea of the phenomena he is likely to be confronted with in practice and of the treatment appropriate thereto; but whether his conceptions of classification in psychiatry are likely to be clarified, or his confidence in the most up-to-date psychological interpretations of mental morbid phenomena is likely to be increased, is open to question. Indeed, we are inclined to sympathise with the most expert exponents of psychiatry in their endeavours to find a footing in the shifting sands of classification, though even this is a small matter as compared with the welter of opinion through which morbid psychology is passing. "Melancholia-mania," "heboid-paranoid" and "neurasthenic-neuropathic" groups of symptoms are terms over which many may delight to wrangle, but their close definition is difficult and a general consensus as to the possibility of fitting clinical facts to the comprehensive titles suggested for the various syndromes almost impossible to obtain. The borders of dementia præcox, of maniacal depressive insanity, and of paranoia alternately expand and contract with such rapidity that one can only admire the mental agility of those who can intelligently follow the changes which to most are extraordinarily perplexing. We believe, however, that for the student and for the practising physician, except perhaps for those who are of opinion that much knowledge is implicit in a bulky nomenclature, there is no greater boon than the presentation of clear pictures of the symptoms of mental disorder. Such pictures have over and over again been successfully drawn, and in the book before us we have yet another example of descriptions of disease which, one can be confident, tally with everyday experience.

The Diseases of Children.

By HENRY ENOS TULEY, M.D., late Professor of Obstetrics, University of Louisville. Second revised edition. With 106 engravings and 3 coloured plates. London: Henry Kimpton. Glasgow: Alexander Stenhouse. 1913. Pp. 684. Price 24*s.* net.

THE second edition of Professor H. E. Tuley's book gives a very complete account of the common diseases of childhood, but he very carefully excludes all reference to the rarer diseases and to those pathological and clinical curiosities which are the breath of life to the professional pædiatrician. As a late professor of obstetrics in the University of Louisville the author might naturally be expected to illustrate his teaching with frequent references to the manifestation of disease in young infants; but as a matter of fact he draws very little from his obstetric experiences, and throughout his writing he leaves the reader under the impression—no doubt quite a wrong one—that he is more familiar with disease as manifested in the adult than with the special characteristics of disease during the ever-changing periods of childhood.

The book, despite its bulk, does not contain a large amount of matter, for its pages are printed in very large, and indeed very excellent, type, with liberal paragraphing, and subheadings are numerous. But we cannot help thinking that the printer (or the author) has made a mistake in heading each page with the title of the chapter and not with that of the particular subsection with which it corresponds. Some of the chapters are very freely subdivided. For instance, that on general diseases includes the following olla podrida of pathological conditions, typhoid fever, rheumatism, diabetes mellitus, tuberculosis, tubercular meningitis, tubercular peritonitis, pellagra, malaria, and syphilis; and each one of these conditions is treated in a separate section, but all are weighted with the comprehensive title, "General Diseases." In the chapter on Contagious Diseases, where again the inclusive title is unfortunately used at the top of each page, the omissions are grave, repeated reference to Koplik's spots does not hide the gaps, and indeed the whole of this chapter might have been taken from a general text-book of medicine published at the end of the last century.

The outstanding feature of Professor Tuley's work is his persistent refusal to acknowledge the rearrangements and reclassifications of disease which the advances of bacteriology have rendered almost imperative. For instance, B. coli and pneumococcic infections are regarded not so much as specific forms of infection vicariously attacking various organs and systems, but rather as the *causæ causantes* of intestinal and pulmonary infections respectively, and in no section of this work can we find any reference to pneumococcic infections of the appendix.

The general impression that we have formed of this work is most disappointing, but there is a redeeming feature in the chapter devoted to the subject of the control and care of milk. As an ex-president of the American Association of Medical Milk Commissions, Dr. Tuley has probably had recent experience in the developments of the milk industry in America, but in any case he has collected a considerable amount of most useful information on this subject and has included it in the chapter on Infant Feeding.

LIBRARY TABLE.

Uganda for a Holiday. By Sir FREDERICK TREVES, Bt., G.C.V.O., &c. Popular edition. London: Smith, Elder, and Co. 1913. Pp. 233. Price 6s. net.—Sir Frederick Treves informs us in his preface that his book is written from "the outlook of the unspecialised traveller, of the man who merely seeks 'somewhere to go to,'" and this may explain the air of boredom which, it seems to us, pervades the book. Sir Frederick Treves touched only the fringe of Uganda and the major part of his book is taken up with a description of his journey to and through British East Africa. His account of the transit from Paris to Marseilles by the P.L.M. express gives the reader the impression of a bad dream, and is, we think, over-coloured, but everyone who has travelled that way will agree with the joy experienced when the traveller wakes up to get his first sight of the Midi. Aden aroused in Sir Frederick Treves sensations from which he found salvation by retiring to the ship's smoking room and turning over "the undisturbing leaves of an illustrated paper a fortnight old." The account given of Mombasa will inspire every reader with a desire to go there, so wonderful are the effects of colour and the romance of the old Arab town. From here starts the Uganda railway, which reaches Port Florence on the Victoria Nyanza after some 580 miles, passing on its way the wonderful Rift Valley. The company is modern in its methods, and from its official publications Sir Frederick Treves has extracted the following interesting items: "Ostriches and ostrich chicks will be carried in brake-vans of goods trains at owner's risk only." "Human ashes are carried in dust-tight boxes at fifth-class goods rates." To be ranked as "fifth-class goods" is even worse than being used to "stop a hole to keep the wind away." Sir Frederick Treves continued his journey by rail (with an interlude of caravan through the Rift Valley) and steamer as far as Ripon Falls, where the Nile leaves the lake. Then he returned and found the journey from the lake to the sea uninteresting, "so uninteresting that the traveller finds more diversion from a six weeks' old London newspaper than he does in a view from the carriage window." The romance of travel would seem to be almost extinct along recognised routes.

War and Women: From Experience in the Balkans and Elsewhere. By Mrs. ST. CLAIR STOBART. London: G. Bell and Sons, Limited. 1913. Pp. 239. Price 3s. 6d. net.—The author presents a clearly written and unvarnished statement of her experiences in the organisation and control of a company of the Women's Convoy Corps, during a ten weeks' sojourn in the Balkans, while giving nursing aid to the Bulgarian forces in the latter part of 1912. The corps had been invited by Queen Eleonora of Bulgaria and by the Red Cross Society and military medical authorities of that State to render assistance in the campaign against Turkey, and as Mrs. Stobart says in her opening chapter, "for the first time in history a company composed exclusively of women has had the experience of going to the front in a campaign, and of improvising and administering in a foreign country a hospital for sick and wounded soldiers." The special feature of the Women's Convoy Corps is that its services are not confined to the nursing of sick and wounded in the wards of hospitals (according to the limitations of the British Red Cross Society), but are available, when required, for sick and wounded in warfare, whatever the conditions may be. The unit numbered 16, including Mrs. Stobart, the commandant and director, two nursing sisters, four other trained nurses, six general duty members, and three women doctors. On arrival at Sofia the detachment was sympathetically received by Queen Eleonora, and then proceeded by rail to Jamboli, and across the Rhodope range and the plains of Thrace by a seven days' bullock wagon trek to Kirk Kilisse, about 40 miles east of Adrianople. Here Mrs. Stobart got ready a hospital with great energy and dispatch, starting it as a going concern within 48 hours of the arrival of the party. This was an extremely creditable piece of work, the finding and taking and cleaning and furnishing of two houses all being accomplished in this time, together with the provision of a certain amount of hospital equipment. Five wounded soldiers were admitted and cared for immediately; four hours later 50 wounded arrived from Chatalja, having undergone a six days' trek in bullock carts without any surgical aid of any kind; their condition may be imagined. Thus the Convoy Corps justified its existence immediately. Mrs. Stobart describes the life from day to day, and gives a lively picture, incidentally disclosing her readiness of resource in emergency, and capacity for making the best of things—even the seven days' wagon journey at a kilometre and a half an hour. The language was a difficulty, not that Bulgarian is hard to learn, but because the people met with were of such various nationalities. The hospital results were extraordinary: of 729 cases only 1 was fatal; 300 of these were serious. Mrs. Stobart attributes the successful results to the healthy condition of the patients, who were of vigorous stock, to the skill and restraint of the doctors in operations, and to the extreme care taken by the sisters in the sterilisation of instruments, &c., in the theatre. We may attribute the success in some part also to the care and supervision as to ventilation and cleanliness of the hospital given by the director herself. Mrs. Stobart has great admiration for the Bulgarian ideal, the ideal of "nationhood," a condition impossible without freedom, and to attain which it was necessary to shake off the Turk. The Turk was defeated because he no longer has an ideal; "the Mohammedan faith is being annihilated by the tide of progress." We are not sure that this can be maintained of Mohammedan races generally; but we are accustomed to call the spirit of such races fanaticism rather than faith in an ideal. The authoress will not allow that war kindles "qualities of heroism,"; it kindles "qualities of brutality." Her disagreement with the Red Cross Society arose from the society's decision to send out only men to nurse the sick and wounded in Bulgaria, which in her opinion signified that "a prominent organisation in Great Britain is still breathing the atmosphere of the times of our great-grandmothers," acting according to the lights of a century ago. The Women's Convoy were, however, on quite friendly terms with the male Red Cross unit at Kirk Kilisse, and the two bodies dined together on Christmas Day. The book is written in a lively style, and the authoress does not disdain to use colloquial expressions which a dozen years hence will need a glossary: "performed on their own," "I was not out for psychological study," "their left hands placed pathetically over their little Marys," are neither more nor less than vulgarisms, out of place in this interesting and well illustrated record of what can be done by women who have pluck and perseverance.

MISCELLANEOUS VOLUMES.

MRS. A. M. USHER, the authoress of *The Management of Children* (with an introduction by FRANCIS B. RUTTER, M.D. Durh., M.R.C.S. Eng. London: J. and A. Churchill. 1913. Pp. 106. Price 1*s.* net), is herself the mother of 12, and consequently has had considerable experience in the management of children, but she admits that she has not had personal experience of all the casualties, mistakes, and diseases which are included in the very considerable and miscellaneous list afforded in these pages. She has acquired knowledge of the rest, however, from reliable hospital nurses and doctors. It is interesting to note that in Mrs. Usher's fully occupied life she has only found time to give others the benefit of her experiences by writing her MS. in pencil while she fed her baby. We cannot help thinking that Mrs. Usher would have been better advised to confine her advice to mothers to such subjects as may be included under the terms "nursing and domestic management." It seems a little beyond the province of a mother—even with the support of experienced nurses and doctors—to take upon herself the responsibility of advising as to treatment of such trivial matters as diarrhœa and constipation, much less on such serious matters as whooping-cough and St. Vitus's dance. And now that the pernicious practice of [illegible]ration by glycerine injections is becoming gradually excluded from our text-books, it seems a pity that Mrs. Usher should revive it, and recommend in addition a still more irrational therapeutic measure—namely, the administration of castor oil. There are, however, a number of useful hints to be learnt from the perusal of this little book, and chiefly with respect to the general management of the nursery.——A useful little book for general instruction is *Home Hygiene* (London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 115. Price 1*s.*), by MRS. HAMILTON WILLIAMS, M.B., B.S. Lond. Mrs. Williams lays down the knowledge of four things as necessary for every girl—viz., how to keep herself in good health, the best and quickest way of doing every sort of work needed in the home, the exact cost of all necessary things that she may obtain the best value for her money, and how to care for little children and when to send for the doctor. The book is divided into four parts in accordance with these four departments of knowledge. It will be seen that the author wisely, as we think, enlarges the scope of the term "hygiene" to cover a wide field. The book is characterised by sound knowledge and common sense all along the lines indicated, and is written in perfectly plain language. It can be highly commended.

Three uncoördinated booklets may be mentioned here. Medical societies are now so numerous and comprehensive that it hardly seems as though there were room for any addition to their number. But should any members of the profession contemplate establishing a new one, some useful hints may be gained from *The Ideals and Organisation of a Medical Society* (London: J. and A. Churchill. 1913. Pp. 51. Price 2*s.* net), by Dr. JAMIESON B. HURRY.——*Some Main Issues* (London: Chapman and Hall, Limited. 1913. Pp. 109. Price 3*s.* 6*d.*) is a collection of essays by Dr. G. WALTER STEEVES on such subjects as Toleration, The Child, Appearances, Letter Writing, Gratitude, The Book Collector, and so forth. They are pleasantly, if not profoundly, written, though every reader will doubtless find [illegible] to disagree with the author.—— [illegible] (London: T. Werner Laurie, [illegible] 6*s.*), is a sort of modern fairy tale about some little boys and girls who have wonderful experiences with mermaids and magic. A 10-year old child, whose opinion of it was invited, said that it was "All right."

JOURNALS AND MAGAZINES.

Surgery, Gynæcology, and Obstetrics. December, 1913.—In this number an account is given of some recent experimental work that has been done by Dr. Nathaniel Allison and Dr. Barney Brooks, of St. Louis, on the subject of the tissue changes which result from the interposition of certain substances between joint surfaces. The first success with the interposition method of treating ankylosed joints appears to have been obtained by Helferich, and he employed a piece of the temporal muscle. This operation was performed for ankylosis of the temporo-maxillary joint, and the case was shown in 1893. Rochet, Hoffa, Nélaton, and others also employed muscle flaps; Gluck used skin flaps; Chlumsky and Hoffa employed non-absorbable material, such as plates of magnesium, silver or tin, or sheets of celluloid or rubber; Hoffa used decalcified bone; Murphy employed flaps of fascia; and Kirschner showed that flaps of fascia which had been detached from their attachments could be transplanted between the bones. Chromicised pig's bladder has been used by Baer. Various other experiments have been performed for the purpose of studying the histological changes in the joint; in many cases a very definite cavity is formed, but opinions differ as to the mode of formation of this cavity and as to the fate of the interposed material. The experiments which have been performed by Dr. Allison and Dr. Brooks were made with the intention of deciding these important points. The knee-joint of the dog was employed and the same operative method was followed in all the cases. The joint surfaces of the patella and the anterior surface of the condyles of the femur were denuded of their cartilage; the substance to be studied was placed between the bones and fixed by fine silk sutures. In all 26 experiments were made. The authors employed the following substances: Cargile membrane, free fascia from the fascia lata, pedunculated flaps of fascia, chromicised pig's bladder, and fascia impregnated with metallic [illegible]. In their paper they give full details of [illegible] obtained, and these may be summarised as [illegible]

ELECTRO-COLLOIDAL THERAPY

COLLOIDAL IODINE IN THE TREATMENT OF TUBERCULOSIS.

Electro-chemical colloidal iodine, discovered by VIEL in 1903, and subsequently tested in the laboratory until 1906, has since then been successfully experimented with in both French and foreign hospitals, the results obtained being published and communicated at the Int. Congress of Tuberculosis (Rome), Pathology (Paris), and the Khedivial Society (Caire).

Iodeol is obtained by dissociating metallic iodine by means of the electric current. The colloidal substance thus obtained is suspended in sterilised olive oil, washed in alcohol and saturated with carburetted hydrogen to prevent the iodine combining with the fatty substances.

The oily suspension ensures durability of the colloidal iodine in a stable form, and renders it possible for the iodine to be kept in suspension in high doses, 0·20 cgrms. to 1 ccm. (isotonic solutions being speedily decomposed owing to the formation of hydriodic acid).

Iodeol is not analogous with Iodo-dextrine, Iodo-Glycogen, Organic compounds of iodine similar to iodide of starch; such physiological colloids do not act as ferments or hydrolysers, and possess neither the antithermic nor the catalytic power of electrically produce colloids (Congress of Pathology, Paris). Electro-chemical colloidal iodine, whilst free from all caustic and toxic properties, possesses in addition to the other properties of colloidal metals in general the bactericidal, antitoxic, and anti-anaphylactic properties of metalloidal iodine. Its non-toxicity enables one to inject very high doses of hyper-active iodine, 16 gr. per diem; in the case of the colloidal metals the dose that can be safely injected does not exceed a few grains.

A large number of experiments within the last six years go to prove that pure electro-chemical colloidal iodine is far more active than the colloidal metals, as it alone acts in severe infections and chronic diseases.

Physical and Physiological Properties.

(A) **Oily suspension;**

(B) Minute, granules hardly visible by the ultra-microscope, as their refractive index *is approximately identical with that of oil*;

(C) Very distinct fluorescence;

(D) **High power of diffusion; it is found present in the urine ten minutes after it has been applied to the skin;**

(E) Precipitated by centrifugalising (at least 16,000 revolutions);

(F) Absolute durability and stability in all climates;

(G) Powerful antithermic, **anti-anaphylactic** and catalyctic action.

A Few References in Medical Literature.

Iodeol is specific for **pneumococcal disease: simple pneumonia, infective pneumonia, broncho-pneumonia, pulmonary congestion** both in man and animals. It acts as a diaphylactic, germicide and lymphagogue, liquefies exudations, modifies the character of the expectoration, relieves cough and dyspnœa, and brings about defervescence within 48 to 72 hours. Mortality barely reaches 3 per cent.

Drs. HERY, BLANC, PHILOUZE (*Therapeutic Society*).
Drs. MIETTE, BRUNET, BOURGEOIS (*Int. Con. Path. Paris*).

Iodeol produces not only those transitory ameliorations in the various forms of **Tuberculosis** that are stated to occur after the use of the most varying forms of treatment, but in most cases after from six to eight weeks' treatment Iodeol will produce a complete change in the condition of the patient. Koch's bacillus disappears from the sputum, which has now become scanty and mucous in character, the physical signs are modified in such a definite manner that, when added to the fact that the weight has increased and the strength of the patient improved, &c., the impression remains that the lesions are fairly on the road to cicatrisation.

Drs. NIMIER, LAUMONIER, ORJUBEN
(*Int. Cong. Tuberc., Rome, April, 1912*).

COLLOIDAL IODINE IN THE TREATMENT OF GONORRHŒA.

(Extract from the Gazette des Hôpitaux.)

In addition to the properties common to the electric colloids the oily suspension of electro-chemical colloidal iodine possesses the bactericidal properties of metalloidal iodine. In the following we give some of the results of our experiments in gonococcal infections: gonorrhœa, &c.

The metallic salts at present utilised in the treatment of gonorrhœa (zinc, mercury) in the main act as **caustic agents,** and are only **slightly bactericidal.**

Colloidal Iodine, on the other hand, acts owing to its diffusibility, it impregnates the mucous membranes and muscular tissues with iodine; on coming into contact with the latter, micro-organisms can no longer live, and it can be demonstrated that **gonococci and staphylococci disappear in a few hours.**

Owing to its being non-caustic Colloidal Iodine cannot cause stricture, nor is any harm likely to be caused even if a few drops accidentally reach the bladder; **no inconvenience is caused.**

The technique is simple and can be carried out by anyone. The injection is given either with a glass Pravaz syringe of 2 ccm. capacity, or with a syringe having a Janet nozzle. The fluid is injected well back into the urethra and there retained for a few minutes; **there being no pain** the patient can retain the fluid as long as he chooses.

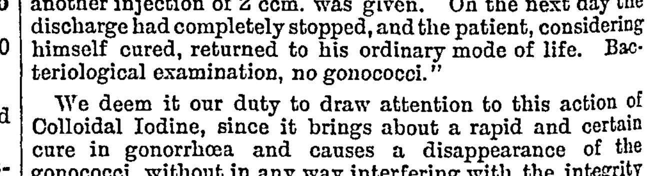
We here give two cases:

"M. B. (Paris), 26 years of age.—Gonorrhœal discharge for three days, discharge abundant, pain considerable; 2 ccm. of Colloidal Iodine injected on the first day. The pain is diminished and the discharge decreased; on the following day a further injection of 2 ccm. is given, microscopical examination of a specimen shows that the gonococci have disappeared."

"M. D., 30 years of age.—Gonorrhœa for 15 days with abundant discharge. An injection of 2 ccm. of *Colloidal* Iodine was given at 10 A.M. By the afternoon the pain had ceased and the discharge had been stopped. At 8 P.M. another injection of 2 ccm. was given. On the next day the discharge had completely stopped, and the patient, considering himself cured, returned to his ordinary mode of life. Bacteriological examination, no gonococci."

We deem it our duty to draw attention to this action of Colloidal Iodine, since it brings about a rapid and certain cure in gonorrhœa and causes a disappearance of the gonococci, without in any way interfering with the integrity of the organs.

Drs. MIETTE and TRUFFIER.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Please forward me, FREE, one "Delta" Syringe and amp. of Iodargol.

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THE LANCET.

LONDON: SATURDAY, JANUARY 31, 1914.

Coroners' Inquests on Deaths under Anæsthetics.

Is it desirable in the interests of the public that inquests should be held in all cases of death under an anæsthetic? The vexed question has been recently reopened. The coroner for Southwark, Dr. F. J. WALDO, who has contended before that inquests in these cases are beneficial in so far that they afford an opportunity, if not for censure, at least for admonition, pointed out on a recent occasion that owing to representations made from his court the system of giving anæsthetics in a large general hospital had been carefully overhauled, with the result that the number of specially selected men serving as anæsthetists had been increased, while the fatalities from anæsthetics in the institution had become fewer. Dr. WALDO is a very wise and experienced official, and is not alone in the belief that the holding of inquests in every case of death during the administration of an anæsthetic is advantageous, since the publicity engenders greater caution, while raising the standard of excellence achieved by the persons who administer anæsthetics. Some go further than this. It has, indeed, been suggested that all patients who die during or as the result of operations in public institutions should have their deaths made the subject of a coroner's inquisition. This suggestion we do not discuss; it appears to be made in direct opposition to public interest, which demands that the officers of our hospitals should do their best without fear. The matter presents grave difficulties and complex problems enough when we are considering only the question of fatalities during the use of anæsthetics.

Mr. T. I. BENNETT, an anæsthetist to Guy's Hospital, at the recent inquest held by Dr. WALDO, while admitting that the verdicts of coroners' juries had subserved a useful purpose, accentuated the view that there is another side to the matter. The anæsthetist subpœnaed to give evidence, he contended, suffers in many ways. The coroner is not an anæsthetist, and although among coroners there are many medical men who possess great knowledge blended with considerable forensic acumen, yet it is impossible for any coroner, unless aided by expert help, to differentiate between deaths due solely to the use of an anæsthetic and those resulting from the depressed vitality of the patient, or the unavoidable collapse incident to surgical or accidental trauma. The obvious factor is the anæsthetic, which is known to be capable of producing death; the intangible is that a patient may be in a practically moribund state brought about by surgical procedure; its very intangibility prevents such a factor from receiving the attention for which it cries aloud to the expert. Yet the anæsthetist in a coroner's court may not belittle the effect of his share in the terrible eventuality, nor emphasise the dangers that must have attended his surgical colleague's manipulations in any particular case. To the heedless man it is axiomatic that some of those who have to submit to the ministrations of the skilled surgeon may die; their death is due, he believes, to causes which Providence alone can control. But death as a result of anæsthesia usually suggests to the public that something went wrong. No one was to blame, but why did it occur? Mr. BENNETT observed very justly that no note is taken of the countless thousands of successful anæsthesias; the one death looms large in the forefront of the coroner's court. This is the natural result of the accepted views about the terrors of surgical operations and the ease of producing anæsthesia. The coroner's inquiry, no doubt, was originally intended to ascertain whether a person died as a result of crime, of accident, or of natural causes; it now attempts to appraise the merits of the technical side of the anæsthesia, and the anæsthetist is placed at a disadvantage in dealing with "twelve good men and true" who incidentally are guiltless of special knowledge, so that he cannot go into technical details. He is practically being placed on trial at every one of these inquests for an offence, and his evidence is not infrequently met by that of a pathologist who knows nothing about the clinical aspects of the case—aspects which are essential to forming an accurate judgment. This would seem to indicate that whatever advantages a coroner's inquiry may have, and we submit all medical men will recognise that such advantages exist under favourable conditions, yet the inquiry is in many cases of little utility, and is useless from the point of view of scientific investigation.

In many serious cases the anæsthetist must be placed in a difficult position. His knowledge may convince him that the patient's condition is so grave as to make the attempt at inducing anæsthesia almost a forlorn hope, and yet he cannot allow the patient to sacrifice one scintilla of his chances. He may do his best, but no man can gauge what resisting power remains to the patient, and so death may follow. Strive as he may, a certain stigma rests on the anæsthetist, especially if death occurs before operative measures have commenced. Besides such considerations, another weighty aspect of the question remains. All the narratives of "deaths under anæsthetics" which are detailed at coroners' courts find their way into the daily press. The reports are compressed into a few lines, and almost invariably the death appears as if it had been caused by the anæsthetic. [illegible] paper paragraphs recur day after day, those whose lives depend upon a successful operation being undertaken, become obsessed with an unreasoning dread of taking an anæsthetic. This dread is doubly dangerous; on the one hand, it may lead the patient to refuse treatment and betake himself to one of the many quacks who batten on such folk; or, on the other, it may throw him into a state of panic, thus engendering the worst state possible for successful and safe anæsthesia. When, then, the whole matter is looked at dispassionately we see that the advantages and disadvantages of publicity much counterbalance each other, and, further, that some changes in the law are necessary.

Hospital Statistics and the Science of Medicine.

THE numbers of patients that come under observation at a large hospital should form a basis upon which statistics of value to medical science might be founded. Experience, however, has taught that unless careful and skilled precautions are taken fallacies are so likely to arise that the final conclusions are not to be relied upon. The reasons for this are sufficiently obvious. Amongst the most prominent are the class of patients from whom the necessary information with regard to family and personal histories has to be obtained, the difficulty of always procuring a sufficient number of instances of the disease under investigation, and the manner in which the records of the cases are collected. These points were frequently apparent in the discussion on the Influence of Heredity in Disease which took place at the Royal Society of Medicine in 1908. Professor KARL PEARSON then remarked that it was extremely difficult in a London hospital to obtain material for accurate deductions, and all the staffs of large metropolitan hospitals will corroborate this. It is not that the patients wilfully make wrong statements as regards their family history, but often they are in ignorance of the true cause of the deaths of their parents and relatives, and often they have grave defects of memory. Professor PEARSON expressed the opinion that the memory of the peasant in the north of England and in Scotland is far better, and the pride of family is far more intense than in the average Londoner of the general hospital population. A sufficient number of cases is very necessary for statistical purposes, as it is evident that nothing can be more fallacious than forming opinions on a review of a small number of cases, and yet we must feel that a good many cases are recorded in an untrustworthy manner. The clinical records of our hospitals leave much to be desired, but the defects are difficult to remedy. In many of the hospitals the notes are made by students or the resident officers, and these are supervised by the registrars and the members of the visiting staff. The value of the notes, especially when taken by the students, largely depends upon the manner in which they are corrected and amended by the physicians and surgeons, and even then, although perhaps useful from a purely clinical point of view, for the purposes of obtaining statistics for any investigation they may be of little worth. Omissions which are of little consequence in one direction may have great significance in the other.

One of the most frequent uses for which statistics are prepared is to demonstrate the results of treatment. The difficulties here met with are well shown in the attempts that have been made to arrive at conclusions as to the therapeutics of pulmonary tuberculosis in hospital and sanatorium practice. In the first place, a definite diagnosis must be arrived at, and much difference of opinion, which we need not enter into here, exists in regard to the methods of diagnosis. Next, too much stress has been laid on the results obtained in a small number of cases. In order that any true criterion may be formed many hundreds of cases must be observed. Again, in hospital practice, a further and greater difficulty is experienced—namely, that after leaving the institution a large number of patients are lost sight of, so that their future progress cannot be recorded. Every effort may be made to keep in touch with discharged patients, but the number of those who do not report themselves, or cannot be heard of, is so big as greatly to invalidate the result of any investigation. In such inquiries, too, it is difficult to eliminate the personal equation. Taking all these things into consideration we see that in compiling medical statistics the services of one skilled in the science should be obtained whenever possible. This was suggested in an interesting article in *The Hospital* recently, in which it was proposed that a bureau might be formed under the supervision of a statistical committee nominated by the authorities of the different hospitals concerned. In this way certainly an orderly manner of keeping our hospital records would be much expedited.

In some other branches of medical service, however, hospital statistics may be of true value if ordinary care is taken. The results obtained in the treatment of the infectious fevers at the special hospitals are not so open to the objections we have mentioned, and the after progress of these cases may be more easily followed by the help of the health authorities. So, too, on a smaller scale in the general hospitals, the results of operations may be compared and checked. Also the frequency of complications and their results in various diseases form a subject for statistical investigation less open to fallacy. The main difficulty in instances of this nature would be to obtain a sufficient number of cases. The suggestion of a central bureau for the collection of statistics was made in a discussion at the Royal College of Physicians of London in reference to tuberculosis, and an extension of this idea might perhaps be made in other pathological directions. A director at the bureau whose formation has been suggested, with suitable assistants trained in medicine and statistics, would be able to control investigations, laying down the manner in which the necessary information must be collected. Some of the difficulties we have mentioned might thus be lessened. And although the collection and collation of medical statistics can never be other than a difficult matter, results could surely be obtained which, being the consequence of careful study and inquiry, would aid still further the advance of the science of medicine.

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The Protection of India from Yellow Fever.

IT is little more than ten years since Sir PATRICK MANSON first sounded a warning note as to the possible danger of extension of yellow fever to Indian and other Asiatic ports after the opening of the new ship canal through the Isthmus of Panama and the establishment of new trade routes from Central and South America across the Pacific. The reality of this danger has been admitted more recently by many other experts. Although up to the present time no cases of yellow fever have been reported in India, it is now generally recognised that at many Indian ports all the necessary conditions exist for favouring the spread of the malady, and that if the infection unfortunately were once introduced by ships arriving from an infected place the disease would rapidly become epidemic and cause serious loss of life. The tiger mosquito, Stegomyia fasciata, the insect transmitter of the disease to man, is present in great abundance at many Indian ports. The same remark applies to a number of seaports in other parts of Asia and in Oceania, including some in Southern Japan and China, the Malay Peninsula, the Straits Settlements, the Dutch East Indies, the Philippine Islands, Honolulu, Fiji, and Eastern Australia, especially Queensland.

We have discussed already in these columns[1] some of the possible results as regards the spread of exotic disease, including yellow fever, that might follow the opening of the Panama Canal, referring to the development of trade with backward republics in Central and South America where yellow fever is endemic, particularly the State of Ecuador and its chief port Guayaquil, known familiarly as "the pest hole of the Pacific." Quite recently Major S. P. JAMES, I.M.S., who had been instructed by the Indian Government to inquire fully into the subject, has visited Panama and travelled along the new routes which will be used when the Isthmian Canal is opened, calling at the various ports between Panama and India to ascertain their condition and preparedness for dealing with imported yellow fever infection. He has now summarised his facts and conclusions in an interesting paper published in the *Indian Journal of Medical Research* (Vol. I., No. 2). Major JAMES has looked at the subject in various aspects, not forgetting the Imperial point of view, and has dealt not only with Indian ports, but with others, such as Hong-Kong and Singapore. He believes the danger of the introduction of yellow fever to be a real one as regards Hong-Kong, but that the spread of the disease to Indian ports *viâ* Singapore is only likely to occur as a secondary event, subsequent to and dependent upon infection of ports in Japan, China, Farther India, or Australia. He is disposed to think as a result of his inquiries that it is by no means certain that the opening of the Panama Canal will increase the risks of the spread of yellow fever to the extent that has been anticipated. Major JAMES may therefore be regarded as taking a hopeful view of the situation, especially as the work already done by the Isthmian Canal Commission has eradicated yellow fever from the Canal Zone. So long as the present enlightened policy is followed and practical measures are carried out in that region there is, we agree, not the slightest danger that yellow fever will again become endemic in it. There is therefore practically no risk of ships becoming infected while passing through the new water-way, or of their conveying the disease across the Pacific to Indian or other Asiatic ports. But in other areas of Central and South America where yellow fever is still endemic, it cannot be said that the same comprehensive measures to grapple with the disease and its insect host have been applied; so that should such republics develop larger trade relations by shipping with ports in the Pacific or in Asia the danger would necessarily increase. In suggesting means for securing the safety of India, and incidentally of other British ports in Asia and Oceania, Major JAMES advises that at Hong-Kong and other places immediate steps should be taken to destroy the stegomyia mosquitoes and their breeding-places, and that the arrangements in force for dealing with infected ships should be improved and extended, so that any ship-borne case may be safely and promptly dealt with. He particularly urges the Imperial Government to appoint three special medical officers possessing the necessary qualifications and experience, one of whom should be stationed in the Panama Canal Zone, one at Hong-Kong, and one at Singapore. Their primary duty would be to act as intelligence officers, to watch for the occurrence of yellow fever (and perhaps other exotic disease), to report such cases and the measures taken to deal with them, and to keep themselves thoroughly acquainted with the local and trans-Pacific shipping and the routes followed. These officers would be in touch with the local consular and quarantine officials, and would furnish to headquarters at first hand full information as to the progress and diffusion of yellow fever (and other exotic disease) in that part of the world. It is also suggested that a central intelligence bureau should be established through which India and all other British colonies and dependencies would receive immediate information concerning the incidence of the disease: Major JAMES suggests that, if the Imperial Government cannot see their way to make such appointments at once, the Indian Government should itself select three officers of the Indian Medical Service and station them respectively at Panama, Hong-Kong, and Singapore at its own expense.

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[1] THE LANCET, Feb. 10th, 1912.

We think that the appointment of these intelligence officers would be a practical measure of great importance to our Indian community. Investigations on a systematic and definite scheme should now be undertaken as to the distribution of stegomyia fasciata in Asiatic ports, and efforts should be made to discover if any other species of stegomyia, and especially S. scutellaris, so common in Asia and Oceania, can act as transmitters of the yellow fever infection to man. Renewed researches likewise should be made to settle, if possible, the outstanding problems relating to the etiology and prevention of the disease. As regards the practicability of reducing the numbers of the stegomyia mosquitoes in Indian ports, the key of the problem appears to be the provision of piped water-supplies delivered under pressure to the houses so as to obviate the storage of water in cisterns or temporary receptacles which are at once used as breeding-places by the stegomyiæ. Some ports—Madras, for instance—have a piped supply, but pressure is only put on for a short time daily, consequently in some parts of the city water has to be stored in vessels of various kinds for the next 24 hours. At Bombay the supply is intermittent, and the inhabitants have therefore to store water for domestic use. Lastly, the keeping of yards and compounds free from rubbish, such as discarded crockery, tins, bottles, and the like, is essential. Such measures as improvement of water-supplies, or keeping of backyards clean and free from rubbish and obstructions, are not only of value in the prevention of yellow fever, but, as has been pointed out over and over again in these columns, in many other ways they act beneficially upon the public health, so that money expended for these purposes is to be regarded as a good investment for any community. We hope that the authorities concerned will give their serious attention, if they have not already done so, to the advice given to them by so competent an expert as Major JAMES.

MANCHESTER ROYAL INFIRMARY.—Mr. Walter G. Carnt, the general superintendent and secretary of the Manchester Royal Infirmary, points out that the support accorded to the infirmary by out-districts is nothing like commensurate with the benefits received. He says that the annual deficiency in the infirmary's income is brought about by the lack of support in the area surrounding Manchester and Salford, for in 1912 the patients from the outside districts cost the infirmary £14,000, whilst only £2000 were received in subscriptions from the districts referred to. From one outlying district where patients cost the infirmary £260 only 16 guineas were received in subscriptions.

Annotations.

"Ne quid nimis."

ENGLISH VITAL STATISTICS FOR 1913.

FOR the information of those of our readers who are specially interested in public health matters we printed last week (p. 263) a table which has been issued provisionally by the General Register Office within a few days of the close of the year to which it relates. The mortality at all ages is now authoritatively declared for each of the main statistical divisions of England, as recently determined by the Registrar-General, with the approval of the Local Government Board. In order to render the crude death-rates strictly comparable they have been corrected or "standardised," the method adopted having been fully explained in the Registrar-General's Seventy-fourth Annual Report notices of which have already appeared in our columns.[1] To the practical sanitarian the last column of this table will be instructive. It gives a condensed record of the incidence of infant mortality in each of the four main divisions referred to. But inasmuch as each division contains administrative areas widely differing from one another as regards the social and sanitary circumstances of the inhabitants, which presumably determine the rate of infant mortality locally prevailing, we must wait for the detailed annual report for 1913, which will undoubtedly disclose much greater local differences in this respect than those mentioned in the table. In that report we may also expect to find particulars of the loss of life at the various stages of the first year after birth, as well as of the chief causes responsible for that loss in each of the 241 administrative districts of the country. On these several points information was given in the Registrar-General's seventy-fourth report already referred to.

THE CENTENARY OF CLAUDE BERNARD.

FRENCHMEN in all ages have been mindful of their great men's achievements, and memorials of one kind and another have been erected to those who by their work and their genius have helped the progress of human knowledge. Medical heroes have been duly honoured thus. It is always agreeable to stroll through the corridors of that heterogeneous mass of buildings which is the abode of the Medical Faculty in Paris. There are to be found the memorials to the investigators who have made the Faculty of Medicine of Paris one of the foremost in the world's history. Crossing the Boulevard St. Michel and passing along the Rue des Ecoles, immediately beyond the Sorbonne, we come to an institution of an entirely different kind. This is the famous Collège de France—with its 42 professorial chairs—an institution founded by François the First; over its main portal is its proud motto, "Omnia docet." In front on a sloping grassy enclosure stand two statues, one of Dante and the other of Claude Bernard. On Tuesday, Dec. 30th, 1913, a meeting was held to commemorate the centenary of the birth of Claude Bernard, though as a matter of fact Bernard was born in July. This ceremony, at once simple yet imposing, took place in Theatre

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[1] THE LANCET, Nov. 22nd, 1913 (p. 1491), and 29th (p. 1566).

No. 6, in which Bernard experimented and where he expounded his famous discoveries. M. Poincaré, the President of the Republic, was present, and the seating accommodation was all occupied long before the appointed hour, at which the railed-off part of the floor space was filled by leading members of the medical and other professions. The chairman, M. Viviani, the Minister of Education and Fine Arts, delivered an eloquent tribute to the vast services rendered by Bernard to humanity. Bergson, professor of "philosophie moderne" in the Collège de France, read a short address, and Professor Gley spoke on some aspects of Bernard's work, as also did Professor Henneguy. Professor Dastre and Professor d'Arsonval—both former assistants of Bernard—gave their personal reminiscences, and eulogised not only his work but also the goodness of his nature, his great heart and noble soul. One interesting personality was not able by reason of infirmity to be present—viz., Professor L. Ranvier, one of Bernard's early assistants, for whom, largely through the influence of Bernard, the chair of comparative histology in the Collège de France was founded. A little volume on Bernard was written some years ago by Sir Michael Foster, although Foster never saw him; but the best account of Bernard's life work is that by Professor Paul Bert, "L'Œuvre de Claude Bernard." Bert unfortunately left physiology to take up a Government appointment in Tonquin, where he ended his days. Dastre succeeded him at the Sorbonne. Bernard himself was succeeded by Brown-Séquard at the Collège de France, and when the latter retired d'Arsonval was elected to the chair of medicine that had been occupied in succession by Magendie, Bernard, and Brown-Séquard.

THE AUSTRALIAN TRIBESMEN.

ON Tuesday evening, *Jan. 27th, Professor* Walter Baldwin Spencer, C.M.G., F.R.S., professor of biology in the University of Melbourne, delivered an address on the Life of the Australian Tribesmen before the Royal Anthropological Institute. Previous to his address, which was given in the theatre of the Civil Service Commission, Professor Baldwin Spencer was entertained by the Fellows of the institute at the Café Monico at a dinner, with Professor Arthur Keith, F.R.S., the president, in the chair. The address gave a most interesting outline of the life led by the primitive Australian savage. Professor Baldwin Spencer has intimate knowledge at first hand of the customs and characteristics of the natives of that continent, and his account of their life and surroundings was made more vivid by cinematograph and phonograph records taken by himself on the spot, as well as by lantern slides of the country and its primitive inhabitants. The large audience was first shown views of the plains of the southern part of the northern territory, and of the central ranges and the northern rivers to illustrate the environment of the Australian tribesmen. Then scenes of camp life and corroboree dances, and of the all-important ceremonies connected with totemic worship, were thrown upon the screen, accompanied by phonographic reproductions of the curious barbaric songs sung upon these occasions. By these means Professor Baldwin Spencer was able to bring his hearers into close touch with the domestic and ceremonial life of the indigenous peoples of Australia, whose habits and totemic ritual are of permanent interest to students of anthropology. It is evident that the scientific lecturer of to-day, if he cares to make use of them, has immense advantages over his predecessors.

AMERICAN MEDICAL MEN IN LITERATURE.

IT is both pleasant and profitable to recall the excursions and successes of members of our profession in fields outside of medicine. The ranks of the medical profession down the ages have afforded some notable examples of travellers and explorers, clerics and missionaries, military commanders, legislators and administrators, and in spheres more closely allied to medicine, scientists and litterateurs. "The recent death of Dr. Weir Mitchell suggests," writes a correspondent, "a few notes on some members of the American medical profession who have achieved local, and in some cases more extended, reputation in literature." He mentions merely those members of the medical profession in the western continent who have contributed to literature, including in the term only poetry, fiction and drama, history, biography, and the didactic and philosophic essay, and we take what follows from his communication. James Thacher (1754–1844), who entered the army as assistant surgeon the year before the declaration of independence, was a biographer and historian, and wrote also on demonology and superstitions and antiquarian subjects. Samuel Latham Mitchill (1764–1831), Professor of Chemistry at Columbia College, has a place in the late Clarence Stedman's "Poets of America." Lemuel Hopkins (1780–1801), an eminent consultant of Hartford, Connecticut, was a political satirist and a poet of some mark, his best known poems being "The Hypocrite's Hope," "The Cancer Quack," and "Ethan Allen." Usher Parsons (1788–1881) did some good work in genealogy and biography and history, and wrote on Indian names. He also published a novel, "The Avenger of Blood." Joseph Johnson (1776–1862) left besides essays a work of historical value in "Traditions and Reminiscences of the Revolution." James Gates Percival (1795–1856), Professor of Chemistry at the United States Military Academy, was a poet of mark, his best known works being "Prometheus," "Clio," and "Dreams of a Day." He also published two volumes of verse. Thomas Ward (1807–1873) composed many ballads and war lyrics, as well as comic operas, and certainly has a niche among American poets. Alfred Mercier (1816–1894) was of French descent, and was educated in France. He published in Paris in 1842 two poems, "La Rose de Smyrne" and "L'Ermite de Niagara," which received great praise. He has several novels to his credit, "Le Fou de Palerme," "La Fille du Prêtre," "L'Habitation de St. Ybars," and "Johnelle," the last named having been published in 1891. John Williamson Palmer (1825—1906) abandoned medicine altogether for literature in 1853, and travelled considerably in Europe and the East. He published a comedy, "The Queen's Heart," also "Folk Songs," and "The Poetry of Compliment and Courtship." He is one of the leading lyric poets of America. His poem, "Stonewall Jackson's Way," was written within sound of the battle of Sharpsburg. He anticipated Bret Harte as an interpreter of Californian life in such stories as "The Old Abode," "Mr. Karl Joseph Kraft of the Old Californians," and others.[1] The woman question evidently interested him, for he translated from the French Michelet's "La

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[1] The Cyclopædia of American Medical Biography from 1610-1910, by Howard A. Kelly, M.D. London: W. B. Saunders Company. 1912.

Femme" and Legouve's "Histoire Morale des Femmes." His varied travels afforded material for "New and Old; or, California and India" (1859), and "Up and Down the Irrawaddi" (1860). Gustav Bruhl (1826–1903), a native of Prussia, settled in Cincinnati in 1848. Not only as a scientist and historian did he take rank; he was also a German-American poet of no mean order. His "Charlotte," "Die Heidin des Amazon," "Poesien des Urwalds," and "Abendglocken" call for mention. He was also an archæologist and anthropologist of note. Sir William Osler has made us familiar with Elisha Bartlett (1804–1855), whose essay on "The Philosophy of Medicine" is regarded by many as a classic in American medical literature, as is also his discourse on the "Times, Character, and Writings of Hippocrates." Orpheus Everts (1826–1903) was one of the early "problem novel" writers. His "Giles and Company" dealt with the problem of heredity, while "The Cliffords" was based on the relations of religion and science. He also published a volume of verse entitled "Facts and Fancies." Chandler Robbins Gilman (1802–1866) wrote "Life on the Lakes" and "Legends of a Log Cabin." We have not included Drummond, the poet of the Canadian habitant, for he was a Canadian, or Draper, the historian and philosopher, or Noah Webster, the lexicographer, historian, and essayist, or Oliver Wendell Holmes, who needs no introduction where the English language is read.

AN EPIDEMIC OF "SHIP FEVER."

THE old "ship fever," typhus, has of late years been little heard of, but if the former conditions of dirt and overcrowding arise again the disease will come back with them. All port medical officers must therefore have typhus fever in their minds, and will be obliged to Dr. Markl, health officer of the port of Trieste, for his account[1] of an epidemic which, arising in a crowded Turkish transport, came under his observation last summer. On [illegible] 14th the steamer *Vorwaerts* embarked at [illegible]na, in Albania, and at another port on the [illegible]atic, 2766 defeated Turkish troops, worn out [illegible] in misery. There were two doctors belonging to the ship and six Turkish doctors as well. 200 of the troops were sick, but their ailments were not exactly diagnosed, and though 27 died during the passage free pratique was at once granted the ship on her arrival at Constantinople on May 20th (sixth day). It was subsequently ascertained that while the soldiers were on board the crew had lived practically with them and all of them had become in consequence infested with lice. As soon as the troops were landed the ship returned to Trieste (May 25th, eleventh day), and there disembarked her trooping fittings and discharged half her crew before proceeding, on May 29th (fifteenth day), to Fiume, which she reached next day, when eight of the crew reported themselves sick and were diagnosed as suffering from malaria or three-day (pappataci) fever. On June 1st (eighteenth day) she was back again at Trieste with 14 sick on board, supposed by the visiting physician to be cases of some form of alimentary intoxication, and pratique was granted, when two of the sick landed and went to their homes. But when request was made for the admission of one of the crew to the city infectious hospital it was recalled that another of the men discharged from that ship on or about May 25th had been already taken ill with typhus fever, so the grant of free pratique was recalled and the ship isolated for the night in the roads. Next day (nineteenth day) she was again medically examined and 18 men on board were found to be sick, all, as it proved, with typhus fever. On later investigation it appeared that in each half of the crew, those discharged on May 25th and those still left on board, 20 cases developed, 40 in all, and that no case arose among those men who replaced the half first discharged—that is, the disease attacked those only who were on the ship with the Turkish troops, but did not spread from them to the men who came on board later. The symptoms were two or three days' feeling of illness, shivering, headache, and anorexia; one man had vomited; only four of the 18 were in bed, but all had more or less pyrexia and fast pulse, two had enlarged spleens, and four showed an exanthem (nineteenth day). On none were any lice found, the men having had time since May 20th to get rid of them. From not one single case, even from those nursed at their own homes, did infection spread—a strong corroboration, as Dr. Markl points out, to Nicolle's view that the infection of typhus fever is carried by lice, and that a patient may be harmless to his neighbours once he is freed from lice. It is noted how strikingly little subjective discomfort and feeling of illness there is at first, but the patients all complained of distressing sleeplessness and of bad dreams when they did doze. The exanthem is an inconspicuous roseola appearing on the fourth or fifth day, and first on the front of the chest and abdomen, becoming generalised later, and altering to petechiæ. Post mortem it is noticed at once that the blood is fluid, as is sometimes the case after death from suffocation; ecchymoses are seen on the surface of the liver and spleen, and the spleen is enlarged, weighing over ¾ lb. Death occurred in six of the cases described above (15 per cent.) from collapse, and in the majority of instances at the end of the second week. Injection of blood into guinea-pigs never set up the disease.

THE SIMPLES AND DRUGS OF INDIA.

FOR some 80 years—namely, from 1498 to 1580—the only European power holding any dominion in India was Portugal. Vasco da Gama anchored before Calicut in May, 1498; Francis of Almeida was the first Viceroy, from 1505 to 1509; while Goa was captured in 1510 by Alfonso de Albuquerque, the Portuguese domination being extended to various places on the Malabar and Malacca coasts. Goa became, as it still is, the capital of Portuguese India, and to Goa, in 1534, there came as physician to Martin Affonso de Sousa, afterwards (1542 to 1545) governor of the city, Garcia da Orta, author of a work written in dialogue form upon the Simples and Drugs of India.[1] The book was first printed at Goa by Johannes de Endem in 1563, being the third book ever printed in India. A Latin epitome made by Clusius (Charles de l'Escluze) was published by Plantin in 1567, which, says Sir Clements Markham, was very different from the original. The epitome was translated into Italian by Antonio Briganti (Venice, 1582) and into French by Antoine Colin (Lyons,

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[1] Archiv für Schiffs- und ropen-Hygiene, December 1913, p. 805.

[1] Colloquies on the Simples and Drugs of India, by Garcia da Orta. New edition (Lisbon, 1895), edited and annotated by the Conde de Ficalho. Translated with an introduction and index by Sir Clements Markham, K.C.B., F.R.S. London: Henry Sotheran. 1913. Pp. 509. Price £2 2s. net.

1619), Orta's name being translated into Du Jardin. An inaccurate edition was published at Lisbon in 1872, and finally Count Ficalho published his standard edition in two volumes, 1891 to 1895, with valuable notes and comments, he himself being an accomplished botanist. The volume now before us is a translation of this edition. Garcia da Orta was born at Elvas about 1490, and from the evidence of the Colloquies is supposed to have studied medicine at the Universities of Salamanca and Alcala de Henares from 1515 to 1525. He then returned to Portugal and practised as a village doctor at Castello de Vide. In 1532 his patrons, the Sousa family, got him appointed lecturer in Lisbon University, a post which he held until 1534, when, as already mentioned, he accompanied Martin Affonso de Sousa to Goa. Here he practised as a physician until about 1570, when he died. The interlocutors of the Colloquies are Garcia da Orta and an imaginary person, by name Dr. Ruano, who is, says Count Ficalho, the personification of the literary and student side of Orta himself. Ruano is always referring to Pliny, Dioscorides, Serapion, Mesue, Avicenna, and other ancient authors, while Orta, though he occasionally mentions the ancients, says (p. 288), "I keep myself remote from these scholastic matters," and frequently when Ruano quotes the ancients in opposition to Orta the latter simply replies, "I [illegible]e seen it." The Colloquies are 59 in number, [illegible] deal mostly with vegetable drugs, though [illegible] animal drugs, such as ambergris, bezoar, and theriaca, are dealt with. There is also a Colloquy on precious stones and on pearls, which formed part of the *Electarium de gemmis* or Diamargariton of mediæval and later times. So Gilles de Corbeil in his directions for treating a rich patient says: "Contundat gemmas, molat aurum, misceat ambram." One Colloquy treats of cholera, another gives an account of a robbery committed by the aid of datura poisoning, and another of the Pao de Cobra, one of the many "Snake Roots," scientifically known as Pauwolfia Serpentina. Orta's style is occasionally somewhat confused. For instance, in talking of plants used for scent he says (p. 37): "Others are used for their scent, such as sandal wood, which is very commonly used to anoint the body, and the Linaloe, Amber, Almisque, and Algalia, much used because the price is not so high. This is because there are many cats in many parts of India." The argument appears a decided *non sequitur*—it may be one analogous to Darwin's well-known canon about cats and clover. The book on the whole is singularly interesting as giving a vivid picture of a physician's knowledge of Indian drugs in the sixteenth century. It is illustrated with pictures of various plants taken from the work of Cristoval Acosta, brother of the better known Josef Acosta, who wrote on Mexico. Cristoval published a work on the medicines of the East Indies at Burgos in 1578. The volume is beautifully printed, though we notice, surely, a misprint on p. 13, where the word "Greeks" in Ruano's first question should be "Turks." Again, on p. 28, in the Colloquy on *Amomum*—i.e., cardamum—Ruano quotes Mateolo Senense as saying that he "does not hold for certain that this drug enters into the *tiriaca* of Andronicus." In his index of persons Sir Clements Markham gives the name Andronicus (p. 28) and adds, "apparently a mistake for Marcus Aurelius." In our opinion there is no doubt that "Andronicus" is a mistake for "Andromachus." The Andromachi, father and son, were physicians to the Emperor Nero, and the father wrote a poem in Greek elegiacs, 'Αντίδοτος γαλήνη, which was quoted by Galen in the Liber de Theriaca ad Pisonem and was translated into Latin under the title De Theriaca. There were many Theriacæ in ancient medicine, but the most renowned were those of Andromachus and Damocrates.

"THE ISLE OF MAN."

Dr. Gustave Monod, M.R.C.S., M.R.C.P., the first Frenchman for 300 years to receive this combination of qualifications, has been studying post-graduate methods in England as a Government delegate, and on Jan. 22nd gave a demonstration in the Therapeutics Section of the Royal Society of Medicine of the "Peristaltic Movements of the Intestines of a Cat," thus showing his audience by the help of the cinema how vividly some physiological processes, not usually visible to the mind's eye, may be set before the student. Food passes from the stomach to the bowel of a cat more rapidly than through a dog or a human being, but when under the influence of senna, and in the conditions of a laboratory experiment, the feline gut performs with almost surprising *aplomb*. Thrown artistically upon a dark-blue screen the cat's intestines, in [illegible] tended or convulsed their convolutions. A futurist sculptor of the school of Mr. Epstein might have seen in the abbreviated drama of the descent of fæcal matter a subject quite as interesting as pregnancy or parturition, which the new art believes to be not unworthy of plastic representation. In the same drama an old Greek physician might have fancied that he beheld the writhings of the mystic serpent of healing. Indeed, one wonders whether the caduceus does not in some sort symbolise man's twining guts. Had it been possible, however, for old Phineas Fletcher to be present at the lecture he would have been more delighted than any of the audience. Fletcher is the poet of the Microcosm, and in "The Purple Island or the Isle of Man," published at Cambridge in 1633, he essays the bold task of describing man's inner economy, both anatomical and physiological. Following up a metaphor well known to Shakespeare and to the ancients, he portrays the body as a country with rivers, lakes, cities, and so forth, and a host of functionaries from the Steward Gustus down to the Porter. The stomach is the kitchen and the intestines are its drainage. His metaphor here is scarcely metaphorical enough. Some eight verses at the end of Canto II. describe the drainage system, over which Hepar, a great official, keeps spies:—

> These pipes are seven-fold longer than the Isle,
> Yet all are folded in a little pile,
> Whereof three noble are, and thinne; three thick, and vile.

The poem is not a success, for it fails to move us. Indeed, it is at best a "conceit" of a most ingenious kind. Poets are apt to be conventional in their thought, and they probably imagine that there is something shameful or terrifying in what happens inside us. Now, however, that there is a medical poet laureate someone may think of the possibilities of a poetry of medicine. Much verse has undoubtedly been written on specific diseases, such, for instance, as the famous "syphilis" epic. But the body in health has been left severely alone. Only one poem has come to our notice in recent years which in any way recalls "The Isle of Man." This is "The Unexplored Republic," which appeared in the *Speaker* shortly before the decease of that admirable literary weekly. The writer conceives of the brain as an unexplored country, governed in some mysterious way by a general consensus of individual cells. Pathos enters into such a theme when death is discussed and the decay of protoplasm considered.

Shall I then know when breeze and stream grow dumb,
And the bright frontier watchfires cease to shine,
And all my tiny citizens become
Doomed miners in a mine?

Shall I be given, or can they, dying, give
The sum of their small lives to be my spark,
So that my selfish spirit still shall live
When their small sprites grow dark?

How is Man's Immortality contrived?
How, if each live cell die, can I attain
Unto th' Immortal who am myriad-lived,
Of living cells a chain?

O darkling "Purple Island," still unknown!
O unexplored Republic, hard to span!
O complex Self unutterably alone,
O lone unfathomed Man!

FRACTURE DISLOCATION OF CERVICAL VERTEBRÆ WITHOUT INJURY OF THE CORD.

BEFORE the advent of skiagraphy little was known of fractures of the spine unaccompanied by lesions of the cord, for the reason that such could not be diagnosed. Now it is known that they frequently occur. Fracture dislocation of the cervical spine is usually accompanied by severe injury of the cord. In the *Australian Medical Journal* of Dec. 6th, 1913, Mr. Alan Newton has reported the following case exceptional to this rule. A man, aged 26 years, while cycling collided with a horse and cart. The horse's nose struck him on the back of the head, throwing him to the ground. He did not lose consciousness and at once regained his feet. He then felt severe pain in the upper part of the neck, most marked posteriorly and increased by even slight movement. On examination he was found to be muscular and well-nourished. The head was held immobile with the cervical spine in a position of slight extension. There was moderate tenderness over the spines of the second and third cervical vertebræ, but no deformity was noticed. Careful examination of the nervous system revealed nothing abnormal. A skiagram showed an injury much more considerable than was expected. There was fracture dislocation between the second and third cervical vertebræ. The pedicles of the second were fractured, and the body (in accordance with rule) projected forwards. However, the spinal canal was not encroached on, and to this fact the patient owed his life. The projecting body could be palpated through the pharyngeal wall. The treatment was immediate immobilisation of the neck by means of a plaster jacket extending from the vertex of the skull to the waist and rest in bed for two months. The jacket was then removed. Three months after the injury there was no pain or apparent limitation of the movements of the spine. A second case occurred in the practice of Mr. Fred Bird. A man, aged 25 years, while building a haystack, fell from the top to the ground, a distance of 12 feet. His brother ran to his assistance and found his head tilted forwards and to one side and held rigidly in that position. Thinking the patient was in danger of imminent death he seized his head and steadying it between his knees gave it a sudden twist. He heard a distinct click and at once the patient could move his head again. Some weeks later Mr. Bird saw him for neuralgic pains in the back of the neck and head in the course of the great occipital nerve. A skiagram showed a partial dislocation of the atlas on the axis and some crushing of the arch of the latter. After a year he had improved, but had not completely recovered. He occasionally suffered from pain and there was slight limitation of movement of the neck. The pain was no doubt due to pressure of callus upon the nerve.

PELLAGRA INVESTIGATION.

NOTWITHSTANDING the numerous researches which have been carried out in recent times concerning the etiology of pellagra, the real origin of that disease remains shrouded in mystery. We are not, however, without hope that before long some satisfactory solution of the problem may be forthcoming as our knowledge of the subject accumulates. Other diseases have seemed equally obscure, and for long years have puzzled investigators. Two instances which may be cited are beri-beri and endemic goitre, in both of which a satisfactory explanation of their causation has at last been found. There has been no lack of hypotheses advanced to explain the occurrence of pellagra in certain places, but so far none of those put forward have been supported by a sufficient weight of evidence to render them acceptable to scientific minds. Neither maize (spoilt or unspoilt), parasitic infection, nor a deficiency of some essential element in the dietary has yet been proved to be the true cause of pellagra, and until the causation of this mysterious malady is definitely known it is impossible to formulate the most appropriate measures for preventing it. For this reason any contribution to the general stock of knowledge respecting this disease must be heartily welcome at the present time. Among those who have taken a conspicuous part in this country in the investigation of pellagra Dr. L. W. Sambon comes in the first rank. It may be remembered that in 1912 he visited Italy and other parts of Southern Europe, on behalf of the British Pellagra Commission, to study the disease in some of its definitely recognised endemic areas, and to consider the conditions there in the light of his own hypothesis that pellagra was due to a parasitic infection transmitted to man through the agency of some insect, probably a species of simulium or sandfly. In continuation of these studies Dr. Sambon left England in August, 1913, on an expedition to the United States to inquire into the circumstances under which pellagra occurred in certain areas situated in the Southern States. By invitation he attended the American Pellagra Conference held in October at Columbia, South Carolina, taking part in the discussions and comparing notes with other experts. It appears that he found a number of American medical men disposed to believe in the parasitic theory of the origin of the disease, and able from their own experiences to find evidence which seemed to support it. He also examined the work that was being done by the Thompson-MacFadden Pellagra Commission in South Carolina and was much impressed with it. After leaving the United States he visited the Panama Canal Zone, *British Guiana*, and by request a number of ur West Indian Islands, in some of which he iscovered undoubted evidence of the presence f pellagra in localities where it had not een previously suspected to exist. Besides tudying that disease Dr. Sambon took the pportunity incidentally of gathering information oncerning some other tropical maladies, including lackwater fever, filariasis, elephantiasis, and eprosy. We now learn that he has recently returned o London, bringing with him a large amount of aluable material collected during his trip to the Vestern hemisphere. This information will, we nderstand, be embodied in a printed report which s expected to form an important contribution to the tiology and epidemiology of pellagra; its publication will be awaited with considerable interest by he medical profession of this country. It is right o mention here that it was due to the generosity nd public spirit of Mr. H. S. Wellcome that the xpedition of Dr. Sambon in 1913 to America became ossible from the financial point of view, and the ame remark applies equally to the expedition ndertaken by Dr. Sambon to Southern Europe in 912.

THE NATURAL PRESENCE OF BORIC ACID IN FOODS.

PURVEYORS of preserved provisions, or even of resh products which easily spoil, such as butter nd milk, make considerable use of various antiseptics. A certain number of these which have een found to be injurious to the public health re forbidden by the sanitary regulations of early all countries. When the toxicity is veak, but may yet appear cumulatively on daily se of the product, even though it be used in ninimum quantity, the percentage allowed is fixed y regulation. This is the case with sulphurous cid in wines, salicylic acid in beer and jams, and boric acid in provisions. When such a substance is examined by the police authorities in France and discloses a proportion of the antiseptic greater than the permitted strength a prosecution ensues, and in the case of an imported product its admission is refused. Two years ago the fruit crop was poor in France, and a large quantity of dried fruit and preserves was imported from Canada. Analysis showed a too great quantity of boric acid, and admission was refused by the Customs. The Canadian merchants protested that they had not added more boric acid than the regulations allowed, and an inquiry was held, the investigation being entrusted to Professor Gabriel Bertrand of the Institute Pasteur. Dr. Roux has recently reported the results of this investigation to the Académie de Médecine. It was shown that boron is found in all living cells. By means of a very precise quantitative analytical procedure, devised by M. Bertrand and M. Aiguilhon, it is possible in a few hours to determine the exact amount of boron contained in the natural product and to distinguish it from the boric acid artificially introduced. M. Bertrand thus found in each kilogramme of dried fruits 0·112 gramme of boric acid in the pulp of the apricot and in cherries, 0·028 gramme in the black grape, 0·0028 gramme in English pears. Nearly all vegetables—notably haricots, carrots, turnips, onions, gherkins—contain per kilogramme from 110 to 112 milligrammes. These findings will be most likely made the most of by food purveyors; but they will at least permit the establishment of a normal boric acid content, *beyond which the discovery of any* greater amount will justify a conclusion of adulteration. For boric acid to exercise adequate preservative properties it will have to be used in proportions greater than those shown by analysis to be present in the natural product. This case recalls the announcement made in our columns 11 years ago that salicylic acid would appear to be a normal constituent of most fruits, the quantity found, however, being very small and not exceeding one milligramme per kilogramme of fruit.

THE ACTION OF SODIUM BICARBONATE IN SHOCK.

IN the *American Journal of the Medical Sciences* Dr. M. G. Seelig, professor of surgery, St. Louis University, Mr. J. Tierney, and Mr. F. Rodenbaugh have published an important experimental study on the action of sodium bicarbonate in shock. In 1903 Howell found that sodium carbonate was an excellent cardiac stimulant in shock. In 1910 Henderson suggested, as a corollary to his theory that shock is due to loss of carbonic acid (acapnia), the prevention of such loss and its replacement by increasing the dead space of the respiratory tract. In the treatment of shock Howell obtained better results from sodium carbonate than from substances generally regarded as of value in this condition. Adrenalin, pituitrin, alcohol, and strychnine gave negative results, or at best temporary and unimportant rises of blood pressure. He thought that the pressor effect of sodium bicarbonate was due to its alkalinity. In order to check Henderson's theory of shock Professor Seelig and his collaborators introduced a solution of sodium bicarbonate into the blood, from which carbonic acid is set free by the action of three constituents—hæmoglobin, serum albumin, and acid sodium phosphate. Infusion of sodium bicarbonate caused a pronounced rise of blood pressure in dogs in a state of shock induced by manipulation and chilling of the abdominal viscera. A rise of 18 millimetres in the mercury manometer was the average, but a rise of 40 millimetres was not uncommon. Concomitantly with the rise of blood pressure there was an increase of the amplitude of the heart beats. This increase, as well as the rise in blood pressure, was well maintained for a fairly long period. On the other hand, the sodium bicarbonate appeared to have no effect on the rate of the heart beat. Another effect was an increase in the depth of the respiration. Evidently this was due to the action on the respiratory centre of the increased amount of carbonic acid in the blood, for an identical result was produced by injection of carbonic acid into the blood. But the rise of blood pressure was *not to be explained by* the same cause; in other words, by the acapnia theory of shock. For if this theory were correct the increased depth of respiration produced ought to have deepened the shock. The rise might be attributed to (1) the bulk of fluid injected; (2) hypertonicity of the injected fluid; (3) alkalinity of the injected fluid; and (4) influence of free carbon dioxide. The bulk of fluid would not explain the rise, because the amount used was small—in all cases under 26 c.c. and sometimes as low as 2 to 5 c.c. With regard to the second theory, it has been shown *that in shock plasma* escapes from the blood into the tissues and the specific gravity of the blood rises. It is possible that the introduction of a hypertonic solution into the blood might reverse the current and prevent the specific gravity of the blood from rising. That the rise of pressure was not due to this cause was shown by infusing dogs in a state of shock with hypertonic salt and basic sodium phosphate solutions. Practically no effect was produced on the low blood pressure. That alkalinity was not the cause of the rise was shown by infusing potassium hydrate and basic sodium phosphate solutions, which gave no rise. Finally, carbon dioxide gas was introduced into the femoral vein. It stimulated respiration most actively, but did not influence the amplitude of the pulse or the blood pressure. This seems to disprove Henderson's view that shock is due to acapnia. The direct vasomotor effect of sodium bicarbonate on the vessels was not tested, but Howell in working on sodium carbonate formed the impression that it acted solely as a cardiac stimulant. All other factors being excluded, it followed that sodium bicarbonate acted specifically on the heart muscle. This was corroborated by the fact that when both vagi were cut a rise of blood pressure followed its injection.

ST. GEORGE'S HOSPITAL.

WE have learned with regret that the Princess Christian has resigned the presidency of St. George's Hospital. A meeting of the house committee of the hospital took place on Wednesday last to consider Her Royal Highness's resignation, when the circumstances precedent, which are well known to all our readers from the full and frequent allusions in the press, came under discussion. The house committee passed a resolution universally regretting Princess Christian's decision, begging Her Royal Highness to reconsider it, and requesting that she would receive a deputation from them that their views might be laid before her. We understand that the existing house committee, any vacancies thereon being filled up, will remain in office until June; but a special court of governors will be held on Wednesday, Feb. 12th, when the proceedings will be open to the press.

Sir Richard Douglas Powell, Bart., M.D., will deliver two Emeritus Lectures on Fridays, Feb. 20th and 27th, at 3 P.M., in the large theatre in the Middlesex Hospital Medical School, "On the Therapeutic Use of Digitalis and Strychnia."

Sir StClair Thomson and Mr. Arthur Cheatle have been elected honorary members of the Società Italiana di Laringologia e Otologia, and Sir StClair Thomson has been elected an honorary member of the Berlin Laryngologische Gesellschaft.

WITH reference to the decision of the London County Council that it could not legally accept the ambulance service scheme prepared by the Metropolitan Asylums Board at the request of the Council, it was mentioned by the ambulance committee of the Board on Jan. 24th that when in 1903 the Board began the conveyance of non-infectious cases (mental, medical, and surgical) the service could have been easily extended to street accident cases. These, however, were purposely excluded because the County Council, in 1902, had undertaken an inquiry into the ambulance question. Eleven years had passed since then and it was to be regretted that London must now wait for a further indefinite period for a street accident service, which the Asylums Board was prepared to provide by midsummer, 1914. Although the County Council has now held two meetings since Christmas, there are no details of an ambulance scheme, promised to be reported immediately after the recess.

THE EXPERIENCES OF CAPTAIN SCOTT'S NORTHERN PARTY FROM A MEDICAL POINT OF VIEW.

THE large hall of the Royal Society of Medicine was completely filled on Monday afternoon, Jan. 26th, for an interesting lecture by Surgeon G. Murray Levick, R.N., Sir FRANCIS H. CHAMPNEYS, President of the Society, being in the chair.

Surgeon LEVICK said it had been suggested to him that as Captain Scott's northern party lived for some time under unusual conditions their experiences might interest the Fellows of the Society. There were six members of the party: Commander Campbell (in command), Surgeon Levick, Mr. Priestley, and three petty officers of the Royal Navy, who left New Zealand at the end of November. When they landed at Cape Adair they built their sectional hut. He did not believe there were stronger winds anywhere. A speed of 100 miles an hour was several times recorded before the wind-gauge was broken. The party had to crawl on all fours. The hut was anchored by wire hawsers to stakes in the ice, and a wind screen was erected sloping upwards to the roof of the hut. The rough seas threw up huge boulders, which subsequently froze together and formed large masses. In a couple of days the sea froze to a depth of 18 inches, sufficient for a sledging party to travel over. There were four months of darkness, during which they were unable to get away from the beach.

The clothing for the spring—which was the time of lowest temperature and strongest winds—consisted of thick woollen trousers and vest, a woollen jersey, and cotton windproof clothing; two or three pairs of socks, fur boots of reindeer hide, and a windproof helmet. A woollen nose-piece was also necessary. The weather was very treacherous. One might set out on a fine and promising day and in 20 minutes there would be a tremendous blizzard without warning, preventing one seeing a couple of yards in front. The party found some interesting fossil remains, one of which showed a tropical tree. When it became evident that the ship could not reach them they had only three weeks' full provisions left. The base at Cape Evans was 220 miles distant. They secured a number of old penguins, and though they were thin and had no blubber they formed an agreeable change from seal meat. Owing to the strong flavour of the seal blubber it was difficult to get used to, and the party had very little oil. At first they ate as much seal meat as possible, with resulting unpleasant symptoms. Until the end of July the party were on short rations and were perpetually hungry. They gradually introduced blubber 60 per cent. to 40 per cent. of meat Carbohydrates were missed very greatly. During seven months very little exercise was taken. Frostbites were always a result of going into the open.

When the supply of salt became nearly exhausted resort was had to salt-water ice. But this initiated a distressing epidemic of diarrhœa, and was discontinued for a week, and the remaining salt used, when the diarrhœa ceased, only to recur when the ice was resumed. In all respects except food, the party suffered all the conditions associated with the production of scurvy, but none had that disease. It seemed impossible to have scurvy while fresh meat was being eaten. While large quantities of seal meat were being taken, there was much uric acid in the urine, and the crystals made micturition distinctly painful. Several members suffered from enuresis in their sleeping bags, with serious results, the bags on awaking being found frozen hard. The desire to micturate became very acute and precipitate, quite out of proportion to the reason for it. These symptoms largely subsided on a low diet. Later every member suffered much from constipation, anal fissures, and hæmorrhages. A man would be absent for 40 minutes, and return in much pain, remaining in pain for hours. When they succeeded in securing more seals the resumption of hearty meals brought back the uric acid and other discomforts. They therefore boiled the meat for at least half an hour, and this caused a disappearance of the symptoms. If the meat was underdone or there were not facilities for cooking, the symptoms became once more evident.

The ventilation of the "igloo," or ice-cave, is an interesting question. To keep out the wind two doors, consisting of bags and boxes, practically shut out all air, and though six men slept in this confined space, 12′ × 5′ × 4′ 6″, no discomfort was felt, not even a headache. But a severe blizzard, combined with the glazing of the roof of the cave, due to the refreezing of the partially melted snow, prevented the permeation of oxygen through the drift snow into the igloo, and the lamp, the stove, and the match all refused to burn. This necessitated the making of a chimney through the drift snow. Surgeon Levick attributed the absence of asphyxial symptoms to the stimulant effect of the intense cold, but for which such foul air could never have been tolerated. Five months were passed in comparative health in these conditions, but as they felt they were going downhill the remaining two months, they decided to get away; and to fit themselves for the long sledge journey to the base they did Swedish exercises. By the time the journey was commenced they were fitter than they expected to be. He believed it was only the carnivorous diet which enabled them to pull through. After three days, during which they went very well, they began to weaken, but fortunately they found the depôt with many varieties of food left by Mr. Griffith Taylor's geological party. They all made an enormous meal, eating the frozen butter and lard like apples. Yet they woke up again in the middle of the night as hungry as ever, and partook of another heavy meal. A member of the party who had been ailing for weeks became quite well within 24 hours of his hearty meal, and finished up quite strong; the varied and plentiful diet had done more for him than all the remedies Surgeon Levick was able to administer. During several days they did 16 hours' marches each day, with only short intervals for food. The long journey home occupied five weeks.

The PRESIDENT conveyed to the lecturer, in the name of the audience, hearty thanks for his lecture.

MEDICINE AND THE LAW.

Dr. Arthur Drury v. Officers of the National Antivaccination League.

Dr. Arthur Drury, of Halifax, has recently agreed to the settlement of an action entered in the High Courts of Justice, King's Bench Division, against certain officers of the National Antivaccination League. The action is a sequel to a Government inquiry held by the Manx Legislative Council last year, at which Dr. Drury gave evidence in favour of vaccination. The *Vaccination Inquirer*, in July last, contained an article on Dr. Drury's evidence, which formed the subject of the action. In October the following article, headed "Dr. Drury and the *Vaccination Inquirer*," appeared in that paper:—

> Having regard to the freedom of the language frequently used by both pro- and anti-vaccinist controversialists, we are surprised to learn that Dr. Drury considers the remarks which we made in the July *Inquirer* on certain portions of his Manx evidence transgress the limits of "fair comment." We therefore wish to state that in using the words "dishonest" and "dishonourable," we had no desire or intention to make any personal imputations against Dr. Drury as a professional man. The context of those words clearly shows that they had reference only to the criticism of certain statements which Dr. Drury had made in regard to the *Vaccination Inquirer*, and that they were used in a controversial and not in a personal sense. As, however, Dr. Drury thinks that they are capable of an offensive interpretation, and that they reflect upon his character as a professional man, we readily insert this explanation, and express our regret if the use of these words has given Dr. Drury cause to complain.

This was regarded as wholly insufficient, and in December the defendants caused to be printed and published in the *Vaccination Inquirer* the following further apology:—

> We are sorry to learn that Dr. Drury is not satisfied with the explanation and expression of regret which we published in our issue of Oct. 1st, 1913, and we therefore desire to amplify our apology. We definitely and distinctly withdraw all the words in our article of July 1st which can be considered in any way to reflect on Dr. Drury either in his professional or personal capacity. We desire to express our regret that we allowed any words to be published which could cause Dr. Drury any pain or be considered in any way to reflect upon his integrity, and we make an unreserved and unconditional apology for having done this Owing to the correspondence that has taken place with Dr. Drury's solicitors, we were not able to insert the above apology in our November issue.

Later a settlement has been agreed upon on the following terms: 1. The payment to Dr. Drury of the sum of 100 guineas. 2. An undertaking that the publication shall not be republished. (The defendants state that the publication has already been withdrawn.) 3. The payment of costs in full. 4. The publication in the *Vaccination Inquirer* of the following:—

> Dr. Drury having taken exception to a certain article in the *Vaccination Inquirer*, an action was commenced in the High Court at his suit against the editor of the *Vaccination Inquirer* and certain officers of the National Antivaccination League. This action has now been settled by the apology and withdrawal which appeared in the *Vaccination Inquirer* of 1st December, 1913, defendants having paid to Dr. Drury 100 guineas as agreed damages and his costs of the action, and the issue containing the statements complained of has been withdrawn from publication.

5. An agreement that the terms of settlement may be published in the *Jennerian*, the *British Medical Journal*, and THE LANCET. Dr. Drury's case has been conducted by Messrs. Hempson, solicitors

(London), acting on behalf of the Medical Defence Union. We congratulate them on the result of their prompt and energetic action.

The Spreading of Scarlet Fever.

At the West London Police Court Mr. C. E. A. MacLeod was summoned for failing to notify a case of scarlet fever, and Mr. A. Samson, the employer of the patient, a domestic servant, for causing her to be placed in a public conveyance, a taxicab. After a son of Mr. Samson, who lives in Kensington, had suffered from scarlet fever and his room had been disinfected, a nurse in the defendant's service contracted the disease. Mr. MacLeod saw her and pronounced her to be suffering as stated, whereupon Mr. Samson sent her in a taxicab to her home at East Dulwich, to be there attended by her panel doctor. This gentleman ordered her removal to an isolation hospital and notified the case, but no notification was made by Mr. MacLeod. Mr. MacLeod, in giving evidence in his own defence, said that it never occurred to him to notify the case—the girl was not his patient; he was only asked to examine her, and he knew nothing about her being sent home in a taxicab. Mr. Fordham accepted this statement, but at the same time inflicted a fine of £1 with 23s. costs. The law allowed no alternative, but our readers will sympathise with Mr. MacLeod; he clearly did not see that the matter concerned him. Mr. Fordham commented severely upon the conduct of Mr. Samson towards both the public and the patient, fining him £5 with 3 guineas costs. It will be observed that there was no reason in this case why a medical practitioner upon the panel should not have attended the patient at her temporary address. But the spread of education has not yet made the public fear the spread of disease. In another recent case, also of scarlet fever, a young man was fined £1 for exposing himself when suffering from scarlet fever in a public-house at Hednesford, where he lived. This conviction was due to the public spirit and energy of the defendant's medical attendant, Dr. R. S. Harvey, who, not finding him at home in bed, followed him to the public-house, and upon his escaping thence pursued him on a bicycle till he finally caught him hiding behind a building.

Chilley v. *Bradford.*

An action was tried recently by Mr. Justice Darling and a special jury in which Mr. Victor Chilley sued Dr. A. Bradford as proprietor of a nursing home, in which the plaintiff had undergone an operation, for damages for the negligence of his servants. The plaintiff's case was to the effect that in order to have an operation performed upon his nose by Mr. C. A. B. Horsford he entered the defendant's nursing home about 2.30 P.M. and went to bed. A nurse named Stuart soon afterwards placed a hot water bottle in his bed and afterwards administered to him an injection of morphia. He went to the operating theatre about 5.30 feeling no pain in his legs or feet, returned to his bed, and went to sleep after the operation, which was successfully performed. When he woke up he found his legs and feet blistered from severe burns, apparently due to the hot-water bottle placed in the bed by the nurse. Evidence as to the duration of the heat in hot-water bottles placed in a bed was given with regard to this, and the fact that in the way indicated the plaintiff had been caused suffering was not seriously in dispute, the main question being the legal liability of the defendant for the negligence, if any, of a nurse in his employment in the circumstances in which the nurses of a nursing home are placed at the disposal of patients and of their own medical advisers. The defendant's case was that it was his duty not to nurse the plaintiff, but to provide competent nurses to do so under the direction of the plaintiff's medical adviser. In the end the following questions were left to the jury by Mr. Justice Darling: 1. Did Dr. Bradford undertake to nurse the plaintiff? 2. Was Nurse Stuart a qualified and competent nurse? 3. Was Nurse Stuart guilty of any negligence by which the plaintiff was hurt. 4. Was Dr. Bradford himself guilty of negligence and, if so, in what respect? 5. In ministering to the plaintiff was Nurse Stuart acting as the servant of Dr. Bradford? 6. What damages, if any, should the plaintiff receive? The jury answered questions 1, 2, 3, and 5 in the affirmative, 4 in the negative, and as to 6 awarded £100 damages to the plaintiff, for which judgment was entered. The above questions are quoted at length because it is from the points thus left to a jury that the nature of the liability and of the facts and conditions upon which a claim for damages must be based can best be gathered. Messrs. Le Brasseur and Oakley, instructed by the London and Counties Medical Protection Society, Limited, defended the action on behalf of Dr. Bradford.

Misconception of a Hospital's Functions.

At Stroud county court a dentist's assistant was sued for £17 by a medical man who had operated on the defendant's wife in the hospital. The defendant, who earned 2 guineas a week, said that he thought all attendance in hospitals maintained by voluntary subscriptions was free. His honour Judge Ellicott said that hospitals were maintained as charities to assist the extremely poor, and not for the benefit of those earning as much as £2 a week. He gave judgment for the plaintiff for the amount claimed. It cannot be pointed out too clearly that an understanding as to payment should be arrived at beforehand between medical man and patient in all cases where any misunderstanding as to liability is possible.

The Hopf Trial.

As already announced in THE LANCET of May 24th, 1913, p. 1495, a man in Frankfort had been arrested on suspicion of having killed his wife by inoculation with pathogenic bacteria and the internal administration of arsenic. During the investigation it appeared probable that he had on former occasions murdered other members of his family in the same way, and he had to appear recently before a criminal court in Frankfort charged with the murder of his father and his mother, two of his children and his first wife, and also with the attempted murder of his second wife and his third wife, the latter being now the only survivor of them all. His motive for doing so was that he wished to get the money for which the lives of his wives and children were insured and the inheritance of his parents. He had the body of one of his three wives cremated so that the cause of her death could not now be ascertained, but in the bodies of the children and of his first wife quantities of arsenic were found. The prisoner admitted that he had given arsenic to some of his family during their lifetime, not for criminal, but for therapeutic purposes, and also after death in order to prevent the body from decomposing. He denied having inoculated his wives with pathogenic bacteria, but stated that he had used such bacteria for experiments on dogs in connexion with his private studies, although he was neither a bacteriologist nor a medical man. The mental attitude of the man was extremely peculiar. He was absolutely calm and gave his answers without the least excitement. The bacterial cultures were purchased by him in Vienna because no German laboratory was willing to supply the cultures ordered by him under the name of an alleged scientific institution. After a trial lasting three days the jury found him guilty of the murder of his first wife, of the attempted murder of his second and third wives and of his two children, and not guilty of the murder of his parents. Medical experts declared that the man was not insane, but was in the full possession of his mental faculties. It is reported that the Austrian authorities will adopt legislative measures such as already exist in Germany to prevent pathogenic micro-organisms from being supplied to unauthorised persons.

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD FOR 1912-13.

I.

THIS report[1] forms a separate supplement to the forty-second annual report of the Local Government Board. Following the customary arrangement the volume begins with the report proper, in which the medical officer of the Board describes some of the outstanding features characterising the public health during the year, the principal matters which have been undertaken by the medical staff of the department, and the "auxiliary scientific investigations" which have been authorised under the annual Parliamentary grant. The report is followed by a large series of special returns, official circulars, &c., together with reports by members of the medical staff on such matters as the distribution of plague, cholera, and yellow fever, outbreaks of infectious diseases, offensive nuisances from trade processes, the work done by the branches for food inspection and vaccine lymph preparation, and the work of the pathological laboratory. Some of the reports on the auxiliary scientific investigations are also included and appear at the end of the volume.

The medical officer, Dr. A. Newsholme, devotes a large portion of his report to consideration of the local prevalence of tuberculosis and to the measures for its treatment and prevention which have followed the institution of "sanatorium benefit," while he also refers to some instructive results obtained by Dr. A Eastwood, Dr. A. S. Griffith, and Dr. F. Griffith in searching for evidence of tuberculosis in the bodies of children taken seriatim as they came for necropsy and irrespective of the causes of death. It will be convenient to review these sections of the report separately in the course of a subsequent article.

General Death-rate and Mortality according to Age.

After commenting on the reduction of death-rate from all causes and from infectious diseases which is apparent when the figures for 1912 are compared with the average experience of 1891–1900, Dr. Newsholme analyses the death-rate from all causes during the 11-year period 1901–1911 at the groups of ages 0–5, 5–10, 10–15, and 15–20. The result, as shown in a series of curves, is a steady improvement at each age, partly interrupted in 1911 in consequence of the exceptionally hot summer of that year. The fall in the mortality of infants under one year is particularly striking. Attention is drawn in this connexion to the special report issued last year on the incidence and causes of infant mortality in 241 urban areas in England and Wales,[2] and to the observations by Dr. T. H. C. Stevenson in the 1911 report of the Registrar-General for England on the statistics of infant mortality in the chief groups of occupations. Among the families of army officers in 1911 the infant mortality per 1000 births was only 44, of naval officers and solicitors 41, of medical practitioners 39. These figures must be compared with the average ratio of infant mortality among artisans of 113, among miners of 160, among unskilled labourers of 152, and among agricultural labourers of 97 per 1000 births. The rate for the middle classes generally was only 61 per cent. of the total mortality rate of the country among legitimate infants.

The report bears tribute to the value of the great alterations in the presentation of national statistics that have taken place in the office of the Registrar-General, and have borne fruit in the annual report of that officer for 1911. These reforms include the substitution of administrative for registration areas; the better allocation of deaths to the normal place of residence; the adoption of the international list of causes of death; the publication of a number of rates annually and a standardised death-rate for each area of sanitary administration; the comparison of mortality from numerous diseases and from all causes in large geographical divisions; and the attempt to analyse the relative frequency of complications and sequelæ in acute infectious diseases.

Pathological Means for Diagnosing Disease.

The Departmental Committee on Tuberculosis in their final report stated their opinion that, in addition to the research work they proposed out of the funds provided under the National Insurance Act, there should be a general extension throughout the United Kingdom of clinical laboratories for the better diagnosis and treatment of disease. Dr. Newsholme gives in an appendix to his report the replies to a general circular sent to county and county borough councils inquiring the extent to which laboratory aids to diagnosis have been supplied by them. These aids were found to be limited in the main to enteric fever, diphtheria, and tuberculosis, examination for other infectious disease being rarely undertaken. The work, as a whole, was carried on in much larger amount in the boroughs than in the counties, and in each group great variations were met with in the extent to which bacteriological work was undertaken and utilised. Dr. Newsholme contrasts these municipal and county undertakings with the much wider field which is covered in the laboratories of most voluntary hospitals, from some of which special returns were obtained, and states his view that in order that a satisfactory medical service may be secured throughout the country facilities for work similar to that being done in hospitals will need to be offered to medical practitioners generally.

Acute Infectious Diseases.

The behaviour of certain of the acute infectious diseases since 1901 is considered seriatim, mainly by comparison of the mortality rates for England and Wales. The decline in the mortality rates of scarlet fever, diphtheria, and enteric fever has in each instance been conspicuous. Under diphtheria reference is made to an example of continued presence of diphtheria bacilli of proved virulence in the throat of a patient eight months after attack, and to the occurrence in the rural district of Saffron Walden of 15 cases of the disease traceable to a patient discharged from hospital who proved to have a suppurating sore on the scalp which contained virulent diphtheria bacilli. In regard to enteric fever, the mortality of which in 1912 was only one-fifth of what it was in 1881–90, the volume contains some very instructive reports from the medical inspectors of the department, which in most cases were separately published last year and then received notice in THE LANCET. These include an investigation by Dr. S. W. Wheaton of an outbreak in Strood (borough of Rochester) due to the pollution of a public water-supply from a well sunk into the chalk close to a number of soakaway cesspools and drains to which cesspools were connected; an extensive outbreak of enteric fever in the small Hampshire town of Ringwood, traced by Dr. H. A. Macewen to drinking water derived from a small stream which passes through the village; an epidemic in Colne in Lancashire, investigated by Dr. J. R. Hutchinson and referred to milk from a farm at which an unsuspected case of enteric fever was present; another in Harwich and its neighbourhood, in which Dr. S. M. Copeman ascertained that the outbreak had its origin in the supply of milk derived from a farm on which there was some reason to suspect that a temporary milker was a carrier case and had caused the infection; and finally a very instructive case of carrier infection by means of milk occurring in the West Riding of Yorkshire and investigated by Dr. Copeman in conjunction with Dr. Sutherland, the assistant medical officer of health of the county. The condition of the carrier in this case presumably dated back to an attack of enteric fever in 1906, since when she appears to have been responsible for five separate appearances of enteric fever involving from first to last about 60 cases in different sanitary districts. On two of these occasions her employment at dairy farms had given opportunities for infection to be conveyed by means of milk to a considerable number of persons outside the household in which she was living.

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[1] London: Wyman and Sons, Fetter-lane. Edinburgh: H.M. Stationery Office. Dublin: E. Ponsonby. Colonial and Foreign, Fisher Unwin, London. Cd. 7181. Price 4s.

[2] THE LANCET, Jan. 10th, 1914, p. 129.

Duration of the Enteric Fever "Carrier Condition."

A supplement to the report, by Dr. J. C. G. Ledingham, gives the result of the bacteriological examination of fæces and urine from patients who had been discharged from the Metropolitan Asylums Board's hospitals convalescent from enteric fever. These patients were followed up in their homes by several of the metropolitan medical officers of health, and the examinations were facilitated by the fact that for two years, from February, 1909, to February, 1911, Dr. G. E. Cartwright Wood had systematically examined specimens from all enteric fever patients on their discharge from the Asylums Board hospitals. Thus in the collection of material from cases which had resumed their ordinary vocations, it was possible to obtain a series divided into two groups: the larger, in which the hospital results on discharge were negative, and the smaller, in which they were positive. Rejecting for comparative purposes all cases in which less than three examinations, at intervals of a month or longer after discharge, were made, Dr. Ledingham obtained 148 cases, of which 99 fell in the first group and 49 in the second. The first group was found to contain no carriers, while in the second eight cases were found, in three of which the carrier condition was probably only temporary, and in five more permanent. In one case the carrier condition remained after a period of over three years. The conclusion may be drawn that if, on sufficient and competent examination of the excreta of enteric fever cases at the time of convalescence, the result is negative, the subsequent development of the carrier state is improbable; if, on the other hand, it is positive, the possibility of the carrier condition remaining requires to be taken into serious account. Dr. Newsholme points out that Dr. Ledingham's observations tend to simplify the work of the medical officer of health who desires to follow up convalescent enteric fever cases in order to take precautions against carriers. He also insists on the importance of action to prevent the carrier case from being employed in the preparation of food, and commends the action recently taken in Manchester to make small weekly payments to a carrier known to have caused enteric fever, on condition that the woman in question stopped keeping lodgers, a business on which she was formerly dependent.

Measles.

A curve of measles mortality in England and Wales from 1881 onwards is given, which shows that since 1896, while the usual biennial augmentations of this disease have occurred, the greater and more formidable epidemics characteristic of some earlier periods have not reappeared, and as a whole the range of the measles death-rate has been at a lower level. London suffered severely from measles in 1911, but the death-rate in that year, 0·57 per 1000, was greatly exceeded in 1898 and in some previous years. Dr. Newsholme observes that it cannot at present be affirmed that the reduced death-rate from measles will persist, but it appears likely that the general improvement in hygiene and in the care of the sick has had a material influence in reducing the death-rate from this disease. Notwithstanding this reduction, measles is still sufficiently formidable, and caused 12,696 deaths in England and Wales, including 1790 in London, during 1912. Compulsory notification of all recognised cases of measles under the Infectious Disease (Notification) Act has not in the past had any marked success, and a number of local authorities who had added measles to the list of notifiable diseases have since obtained the sanction of the Local Government Board to revoke the order requiring this notification. Dr. Newsholme remarks, however, that probably the notification of the first cases in a family by the medical attendant or by the parent would be helpful, and notes that the city of Manchester has recently obtained powers making it obligatory on the parents of all children suffering from measles or whooping-cough to notify the cases.

The volume contains the report of an inquiry under the Board's scientific grant which was undertaken by Dr. H. Thursfield regarding the bacterial causes of death in measles. The disease is fatal principally through broncho-pneumonia and other complications, and it is possible that it is the secondary infections associated with these complications more than the measles organism itself which are mainly responsible for the fatal result. Dr. Thursfield, who adopts this hypothesis, studied a series of measles cases fatal from broncho-pneumonia, and his results indicate that the death is most frequently associated with septicæmia set up by streptococcus pyogenes (18 out of 31 cases), and less often with pneumococcus infection. The latter appeared principally in the cases which died comparatively early, at the end of the first or beginning of the second week. The bacillus influenzæ also was found to play a part in the production of broncho-pneumonia. The suggestion is made that measles cases in which streptococci are found in the fauces should be strictly isolated from other measles patients, and that in measles generally more attention should be paid to cleansing the fauces and mouth than is now usually the case.

Cerebro-spinal Fever and Poliomyelitis.

Under this heading the report contains instructive diagrams of notified cases of these diseases week by week during 1912, distinguishing those in urban and in rural districts. In 1910 and 1911, when epidemic poliomyelitis was ascertained to be present in considerable amount in England and Wales, the cases were observed chiefly in country districts and in small towns. In 1912, on the contrary, 135 cases were notified in London, 586 in provincial urban districts, and 118 in rural districts; in terms of population approximately twice as many cases were observed in urban as in rural districts. From a separate statement supplied by Dr. R. J. Reece it appears that, judging from the notifications, the fatality of poliomyelitis was 13 per cent. and that from cerebro-spinal fever 70 per cent. About three-fourths of the poliomyelitis cases were children under 5, and in at least half of the total cases of this disease permanent paralysis of one or more groups of muscles occurred. Dr. Newsholme advises that medical officers of health should exercise some measure of supervision over children who have in recent months suffered from this disease, in order to advise parents to secure the best treatment available.

Small-pox; Vaccination Returns; Vaccine Lymph.

Only 121 cases of small-pox were notified in England and Wales in 1912; single cases or small groups of cases occurred in London in two metropolitan boroughs, in 32 sanitary districts in the provinces, and in six port sanitary districts. A somewhat greater prevalence occurred in Bristol. All but six of the total cases were isolated in hospitals, and an appendix to the report analyses the condition of these cases in respect of their vaccination. Another appendix gives a digest of the local vaccination officers' returns with regard to children whose births were registered in 1911. For England and Wales the percentage of "acceptance" of vaccination was 52·3 in that year, continuing the fall which has set in since 1905, when the corresponding figure was 75·8. The official returns relate only to children whose births are registered within a given 12 months, and take no cognisance of later vaccinations under the influence of local apprehension of small-pox, but they show undoubtedly that "the proportion of the population which is not protected against small-pox by vaccination is slowly increasing." During the 12 months ended March 31st, 1913, 615 public vaccinators received special awards under Section 5 of the Vaccination Act, 1867. Dr. F. R. Blaxall reports on the work of the Government Lymph Establishment; over 384,000 tubes were sent out during the year, and used principally for primary vaccinations, which gave a case success of 99·4 per cent., and an insertion success of 93·1 per cent.

Epidemiology of Plague, Cholera, and Yellow Fever.

After referring to the work of the International Health

Office, to which the Local Government Board furnishes the British representative, the report epitomises the study of the prevalence of plague, cholera, and yellow fever throughout the world in 1911 and 1912, which has been made by Dr. R. Bruce Low, and occupies a large section of the volume. This collection of information as to the prevalence, rise, and fall of these diseases in different countries must have entailed a great amount of labour and constitutes a very valuable record. In regard to plague, it is interesting to note that in India, where the deaths numbered over 800,000 in 1911, the disease now seems to be somewhat rapidly subsiding.[1] Fortunately, the terrible experiences of Manchuria in 1910-11, when over 50,000 persons died from pneumonic plague, were not repeated, and beyond some scattered cases nothing was heard of plague in this northern province of China up to the end of 1912. The account of cholera includes a description of the methods adopted at New York in 1911 to detect carrier cases among emigrants from the Mediterranean ports by means of rectal swabs. The director of the State laboratories boarded the vessel with a supply of tubes of culture media and sterile swabs, and the passengers were brought to him one by one with loosened clothing. As they successively bent over a chair the director inserted his swabs with a single movement and with such dexterity that, it is said, 265 specimens could thus be obtained in an hour. Altogether about 27,000 persons were examined, of whom 26 were said to have proved infected by cholera. An account of the world prevalence of yellow fever is for the first time added to this series.

RESCUE APPARATUS FOR USE IN POISONOUS ATMOSPHERES.

A RECENT law has placed upon owners and managers of coal-mines the onus of providing portable apparatus to enable rescue work to be conducted in mines where the atmosphere at the moment may be irrespirable. But no steps have been taken to ensure that the apparatus provided shall conform to any definite standard of efficiency, or that the men who may be called upon to use it shall be properly trained beforehand in its technique. As a matter of fact, several valuable lives have been lost in late years through misplaced confidence in rescue apparatus of various kinds; more, probably, than have been saved by the same means. In these circumstances the Doncaster Coal Owners' Committee commissioned Dr. J. S. Haldane to investigate the various types of such rescue apparatus which are on the market, to report on their relative merits, and to point out such defects as he might discover in them. By the courtesy of the committee a copy of Dr. Haldane's report has been submitted to us; and we learn also that in three months' time he will repeat his tests to ascertain whether effective improvements have been introduced by the manufacturers. Meanwhile, Dr. Haldane is carrying out researches upon the smoke helmet and reviving apparatus.

The report now before us begins by recapitulating in simple form the admitted facts of physiology as they concern the respiratory interchange of gases in various states of rest and exercise. From this are deduced the minimum requirements of oxygen supply to, and carbon dioxide absorption from, a man who may have to do hard physical work in an irrespirable atmosphere for as long as two hours at a stretch. Then some five forms of patent apparatus are subjected to practical tests with a view to discovering how they comply with those requirements, and how they compare respectively for portability, reliability, safety, convenience, durability, and similar important factors. The results are of great theoretical interest and of even greater practical importance. All the five forms of apparatus possess such grave faults that none of them earns Dr. Haldane's approbation. Each has its own definite merits in various respects, but in certain particulars not one of them is satisfactory, so that a mere combination of the best points of each would not alone provide the perfect instrument. Stress is also laid upon the necessity for complete familiarity with his apparatus on the part of any man who risks his life underground by wearing one in a poisonous atmosphere; in other words, of the all-importance of preliminary training. Dr. Haldane well points out that vision and hearing must be left as free as possible. When penetrating along mine roads wrecked by an explosion or damaged by fire, steam, and so on, it is essential to avoid loose timber or stone projecting from the roof. Any man of over average height who has been down a coal mine will remember, doubtless, that only about 5½ feet separate the floor and the roof. Not only may a man who cannot see clearly when wearing a rescue apparatus bring down upon himself an avalanche of rock or timber, but he is also even more likely to injure himself or his apparatus by collisions with the walls or roofs of the gallery he is working in. Hence, Dr. Haldane disqualifies the smoke-helmet type of apparatus, preferring the mouthpiece pattern. A half mask is more comfortable than the latter, but less efficient in his judgment. It is also undesirable that the apparatus should project from the head or shoulders of the wearer; some of those which Dr. Haldane tested were greatly superior in this requirement to others. The oxygen cylinder type is better than that in which liquid air is employed in that it can be quickly put into use or out of use, whereas liquid air takes time to get going and cannot be prevented from wasting when its use is temporarily suspended. Another important quality of the ideal apparatus is that it should be capable of being easily, quickly, and certainly tested when required in an emergency: there are some intricate details connected with this point attention to which is vital. Again, the apparatus should be invulnerable to moderate trauma, since knocks and jolts are inevitable in the nature of things when it is in use. It should be undisturbed by high temperatures, and as incapable as may be of leakage. Finally, it must fulfil the physiological requirements already mentioned.

"It is quite evident," says Dr. Haldane, "from the results of our experiments that a number of serious and more or less dangerous defects exist in rescue apparatus at present in use in this country and in the manner of using them. The sooner these defects are recognised, the sooner will they be remedied, or adequate means be taken to guard against harm resulting from them." With this opinion, after reading Dr. Haldane's account of his experiments, it is impossible to disagree. Medical men, who are best qualified to comprehend his account of the physiological requirements and his criticism of the ways in which they are at present violated in rescue apparatus, might well turn their inventive powers to the problems thus presented, for not only is there the surety of fame for the successful inventor, but of material prosperity as well.

WEST AFRICAN MEDICAL STAFF DINNER.—The winter dinner of the West African Medical Staff, which took place on Jan. 21st at the Grand Hotel, London, W.C., was a pleasant and sociable function, distinguished by a degree of camaraderie resembling that to be found in a well-conducted regimental mess, rather than the stereotyped formality that so often characterises the ordinary banquet. Dr. W. T. Prout, C.M.G., medical adviser to the Colonial Office, presided, the vice-chair being occupied by Mr. J. P. Fagan, late deputy P.M.O. for Northern Nigeria. The unusual and highly commendable feature of the West African dinners is the fact that speechmaking is curtailed to the minimum After the Royal toast the President briefly proposed the toast of "The West African Medical Staff." Notwithstanding the existence of certain grievances, he said, the service was a very good one—a sentiment which received the cordial support of those present. Mr. G. Fitzjames Darker proposed the health of "The Guests" in a cordial and kindly manner, which was responded to by Mr. Kenneth Millican and by Mr. Pontifex, the latter of whom, in detailing the services rendered by medical science, unintentionally occasioned great merriment by citing as an instance the fact that sanitation had materially decreased the "birth" rate. The company then retired to the ante-room, where the rest of the evening was spent in clublike intercourse. Before the meeting broke up Mr. H. A. Foy proposed the health of Mr. Fagan, to whose unremitting zeal and energy the success of this dinner, as of many preceding ones, was due, and Mr. Fagan replied in a very humorous speech. The attendance was fair, though not so large as it ought to have been, considering the number of officers from the coast home on leave.

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[1] See THE LANCET, Dec. 27th, 1913, p. 1846.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8490 births and 6098 deaths were registered during the week ended Saturday, Jan. 24th. The annual rate of mortality in the 96 or 97 towns, which had been 18·6, 19·3, and 17·0 per 1000 in the three preceding weeks, rose to 17·5 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these towns averaged 17·9, against 18·6 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 7·8 in Leyton, 8·6 in Ilford, 8·8 in Edmonton, 9·0 in Cambridge, and 9·3 in Walthamstow, to 24·3 in Plymouth, 24·5 in Bath, 24·7 in Rotherham, 26·1 in Barnsley, and 26·7 in Wolverhampton.

The 6098 deaths from all causes were 181 in excess of the number in the previous week, and included 343 which were referred to the principal epidemic diseases, against 355 and 329 in the two preceding weeks. Of these 343 deaths, 79 resulted from whooping-cough, 70 from measles, 68 from diphtheria, 68 from infantile diarrhœal diseases, 41 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual deatn-rate from these diseases last week was equal to 1·0, against 1·0 and 0·9 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had been 76, 64, and 66 in the three preceding weeks, further rose to 79 last week; of this number 15 were recorded in London, 7 in Birmingham, 6 in Manchester, 6 in Sheffield, 4 in West Ham, 4 in Liverpool, and 3 each in Leicester, Leeds, and Swansea. The deaths referred to measles, which had decreased from 80 to 55 in the four preceding weeks, rose to 70 last week, and caused the highest annual death-rates of 1·4 in South Shields, 1·6 in Rhondda, 1·8 in Great Yarmouth, 2·0 in Dudley, 2·8 in Burnley, and 6·8 in Barnsley. The fatal cases of diphtheria, which had risen from 60 to 70 in the four preceding weeks, were 68 last week, and included 13 in London, 7 in Manchester, 5 in Leeds, and 3 each in Tottenham, West Ham, Portsmouth, and Nottingham. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 80, 89, and 80 in the three preceding weeks, further declined to 68 last week, of which 14 were recorded in London, 7 in Birmingham, 7 in Manchester, 3 in Liverpool, 3 in Salford, and 3 in Rhondda. The deaths referred to scarlet fever, which had been 34, 43, and 37 in the three preceding weeks, rose to 41 last week, and included 6 in London, 6 in Birmingham, 4 in Salford, and 3 in Merthyr Tydfil. The fatal cases of enteric fever, which had been 16, 28, and 21 in the three preceding weeks, further fell to 17 last week, of which 3 occurred in London, 3 in Sheffield, and 2 in Salford.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily decreased from 4143 to 3676 in the seven preceding weeks, had further declined to 3567 on Saturday last; 375 new cases were admitted during the week, against 425, 416, and 388 in the three preceding weeks. These hospitals also contained on Saturday last 1077 cases of diphtheria, 239 of whooping-cough, 64 of enteric fever, 55 of measles, and 1 of small-pox. The 1577 deaths from all causes in London were 108 in excess of the number in the previous week, and corresponded to an annual death-rate of 18·2 per 1000. The deaths referred to diseases of the respiratory system, which had been 423, 511, and 400 in the three preceding weeks, rose to 421 last week, and were 68 above the number recorded in the corresponding week of last year.

Of the 6098 deaths from all causes in the 97 towns, 207 were attributed to various forms of violence, and 493 were the subject of coroners' inquests. The causes of 47, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Leeds, Bristol, Bradford, Newcastle-on-Tyne, Nottingham, and in 59 other smaller towns. Of the 47 uncertified causes of death, 16 were recorded in Birmingham, 13 in Liverpool, 2 in Dudley, 2 in Burnley, and 2 in South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1167 births and 919 deaths were registered during the week ended Saturday, Jan. 24th. The annual rate of mortality in these towns, which had been 20·3, 20·2, and 20·4 per 1000 in the three preceding weeks, further rose to 20·9 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these towns averaged 20·5, against a corresponding rate of 17·9 per 1000 in the 97 large English towns. Among the several Scotch towns the death-rate last week ranged from 12·6 in Motherwell, 13·8 in Perth, and 14·0 in Kirkcaldy, to 26·8 in Greenock, 27·1 in Hamilton, and 32·3 in Kilmarnock.

The 919 deaths from all causes were 23 in excess of the number in the previous week, and included 100 which were referred to the principal epidemic diseases, against 79 and 67 in the two preceding weeks. Of these 100 deaths, 51 resulted from measles, 19 from diphtheria, 15 from scarlet fever, 9 from infantile diarrhœal diseases, 5 from whooping-cough, and 1 from enteric fever, but not one from small-pox. These 100 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·3, against 1·0 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 50, 36, and 29 in the three preceding weeks, rose to 51 last week, of which 25 occurred in Glasgow, 5 in Edinburgh, 5 in Greenock, 4 in Leith, and 3 in Ayr. The deaths referred to diphtheria, which had been 12, 14, and 13 in the three preceding weeks, rose to 19 last week, and included 5 in Glasgow, 5 in Edinburgh, 5 in Aberdeen, and 2 in Dundee. The fatal cases of scarlet fever, which had been 7, 9, and 8 in the three preceding weeks, rose to 15 last week; 5 deaths were registered in Glasgow and 4 in Aberdeen. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 11, 12, and 8 in the three preceding weeks, were 9 last week, of which 4 were recorded in Glasgow, 2 in Paisley, and 2 in Greenock. The deaths referred to whooping-cough, which had been 5, 5, and 9 in the three preceding weeks, declined to 5 last week, and included 2 in Glasgow. The fatal case of enteric fever was registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had steadily increased from 139 to 230 in the five preceding weeks, were again 230 in the week under notice; 26 deaths were attributed to different forms of violence, against 33 and 26 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 618 births and 550 deaths were registered during the week ended Saturday, Jan. 24th. The annual rate of mortality in these towns, which had been 25·7, 25·4, and 21·6 per 1000 in the three preceding weeks, increased to 23·8 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these Irish towns averaged 23·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 17·9, while in the 16 Scotch towns it was equal to 20·5 per 1000. The annual death-rate last week was equal to 28·4 in Dublin (against 18·2 in London and 20·6 in Glasgow), 23·8 in Belfast, 24·5 in Cork, 16·5 in Londonderry, 14·9 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 18·8 per 1000.

The 550 deaths from all causes were 50 in excess of the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against 44 and 38 in the two preceding weeks. Of these 39 deaths, 10 resulted from whooping-cough, 9 from infantile diarrhœal diseases, 8 from measles, 7 from diphtheria, 3 from enteric fever, and 2 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·7 per 1000; in the 97 large English towns the corresponding rate did not exceed 1·0, while in the 16 Scotch towns it reached 2·3 per 1000. The deaths attributed to whooping-cough, which had declined from 10 to 4 in the four preceding weeks, rose to 10 last week, and comprised 5 in Belfast, 2 in Dublin, 2 in Tralee, and 1 in Lisburn. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 6, 7, and 11 in the three preceding weeks, fell to 9 last week, of which 5 were recorded in Dublin. The fatal cases of measles, which had been 7, 8, and 6 in the three preceding weeks, rose to 8 last week, and included 4 in Dublin. The deaths attributed to diphtheria, which had been 7, 6, and 2 in the three preceding weeks, rose to 7 last week, of which 6 occurred in Dublin and 1 in Lisburn. The deaths referred to scarlet fever, which had been 3, 13, and 12 in the three preceding weeks, declined to 2 last week, both of which were registered in Belfast. Of the 3 fatal cases of enteric fever 2 were recorded in Dublin and 1 in Belfast.

The deaths referred to diseases of the respiratory system, which had been 162, 154, and 130 in the three preceding weeks, rose to 153 in the week under notice. Of the 550 deaths from all causes, 167, or 30 per cent., occurred in public institutions, and 14 resulted from various forms of violence. The causes of 20, or 3·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1913.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1913.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death rate per 1000 living.†
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,518,191	—	2412	875	—	72	2	39	467	5	13	3885	9·0	—	20	23	50	50	14	143	300	0·7	6437	14·9
West Districts.																								
Paddington	142,210	—	81	38	—	3	—	—	17	—	—	139	10·2	—	1	2	3	2	1	5	14	1·0	222	16·2
Kensington	171,284	—	90	13	—	2	—	3	17	—	—	125	7·6	—	—	—	1	—	—	4	5	0·3	235	14·2
Hammersmith	123,745	—	83	14	—	—	—	1	15	—	—	113	9·5	—	—	1	2	—	—	1	4	0·3	175	14·5
Fulham	157,117	—	138	33	—	1	—	4	12	—	—	188	12·5	—	—	—	5	3	1	9	18	1·2	222	15·2
Chelsea	64,598	—	28	12	—	—	—	—	3	—	—	43	6·9	—	—	1	1	1	—	1	4	0·6	82	12·6
City of Westminster	154,810	—	40	12	—	3	—	1	5	—	1	62	4·2	—	—	—	—	—	—	1	1	0·1	199	14·1
North Districts.																								
St. Marylebone	114,532	—	38	15	—	1	—	—	9	—	—	63	6·7	—	—	2	—	—	—	2	4	0·4	149	14·9
Hampstead	86,346	—	29	16	—	—	—	—	5	—	—	50	6·0	—	—	1	—	1	—	3	5	0·6	93	11·8
St. Pancras	214,330	—	85	43	—	2	—	3	23	—	2	168	7·7	—	—	—	1	5	—	7	13	0·6	319	15·5
Islington	325,585	—	203	69	—	9	—	2	32	1	1	307	9·8	—	—	2	3	3	—	10	18	0·6	532	16·6
Stoke Newington	50,518	—	27	10	—	1	—	—	2	—	1	41	8·5	—	—	—	2	—	1	3	6	1·2	80	15·7
Hackney	223,353	—	140	42	—	4	—	2	22	—	—	210	9·8	—	—	2	2	1	—	5	10	0·5	305	14·3
Central Districts.																								
Holborn	46,949	—	13	5	—	—	—	—	1	—	—	19	4·2	—	—	—	—	1	—	1	2	0·4	77	17·2
Finsbury	84,679	—	28	5	—	5	—	1	12	1	—	52	6·4	—	—	—	—	2	—	5	7	0·9	136	16·5
City of London	17,916	—	1	3	—	1	—	—	2	—	—	7	4·1	—	—	—	—	—	1	—	1	0·6	32	19·4
East Districts.																								
Shoreditch	109,654	—	47	12	—	2	—	3	28	—	1	93	8·8	—	—	—	6	5	—	9	20	1·9	201	19·7
Bethnal Green	127,824	—	36	24	—	1	—	—	26	1	—	88	7·2	—	1	1	1	8	—	6	17	1·4	194	16·4
Stepney	275,300	—	67	45	—	3	1	4	34	—	—	154	5·8	—	1	1	—	2	—	7	11	0·4	382	15·1
Poplar	160,913	—	100	34	—	3	—	2	21	—	—	160	10·4	—	1	2	3	4	1	3	14	0·9	267	17·1
South Districts.																								
Southwark	188,487	—	140	27	—	3	1	—	33	2	—	206	11·4	—	4	3	—	2	1	6	16	0·9	317	17·6
Bermondsey	124,739	—	95	26	—	3	—	1	13	—	1	139	11·6	—	—	1	2	—	—	11	14	1·2	208	17·4
Lambeth	297,139	—	184	87	—	2	—	2	26	—	3	304	10·7	—	1	2	5	3	—	14	25	0·9	383	13·1
Battersea	167,464	—	146	23	—	3	—	1	8	—	1	182	11·3	—	2	—	3	1	3	6	15	0·9	242	15·2
Wandsworth	330,395	—	138	46	—	10	—	3	21	—	1	219	6·9	—	—	—	3	1	2	8	14	0·4	361	11·5
Camberwell	261,805	—	196	81	—	3	—	2	33	—	1	316	12·6	—	6	2	2	2	—	7	19	0·8	374	14·7
Deptford	109,230	—	50	29	—	—	—	—	23	—	—	102	9·7	—	3	—	1	—	1	2	7	0·7	166	15·6
Greenwich	96,015	—	27	17	—	1	—	—	9	—	—	54	5·9	—	—	—	1	—	—	2	3	0·3	134	14·4
Lewisham	168,822	—	84	60	—	4	—	3	6	—	—	157	9·7	—	—	—	2	1	2	4	9	0·6	181	11·0
Woolwich	122,382	—	78	44	—	2	—	1	9	—	—	134	11·4	—	—	—	1	2	—	1	4	0·3	169	14·8
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

† The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1913.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the metropolitan boroughs and in the City of London. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 9·0 per 1000 of the population, estimated at 4,518,191 persons in the middle of last year; in the three preceding months the rates were 7·7, 10·4, and 11·0 per 1000 respectively. The lowest rates last month were recorded in the City of Westminster, St. Marylebone, Holborn, the City of London, Stepney, and Greenwich; and the highest rates in Fulham, Southwark, Bermondsey, Lambeth, Battersea, Camberwell, and Woolwich. The prevalence of scarlet fever showed a considerable decline from that recorded in either of the two preceding months; this disease was proportionally most prevalent last month in Hammersmith, Fulham, Southwark, Bermondsey, Battersea, and Camberwell. The Metropolitan Asylums Hospitals contained 3810 scarlet fever patients at the end of last month, against 2552, 3517, and 4006 at the end of the three preceding months; the weekly admissions averaged 445, against 402, 512, and 581 in the three preceding months. Diphtheria was rather less prevalent than it had been in either of the two preceding months; the greatest proportional prevalence was recorded in Paddington, Lambeth, Camberwell, Deptford, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 909, 1190, and 1188 at the end of the three preceding months, had declined to 1099 at the end of last month; the weekly admissions averaged 146, against 147, 184, and 158 in the three preceding months. Enteric fever also showed a diminished prevalence as compared with the two preceding months; this disease was proportionally most prevalent last month in Islington, Finsbury, Bermondsey, Wandsworth, and Lewisham. There were 51 enteric fever patients in the Metropolitan Asylums Hopitals at the end of last month, against 56, 77, and 72 at the end of the three preceding months; the weekly admissions averaged 9, against 11, 12, and 11 in the three preceding months. Erysipelas was proportionally most prevalent in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Camberwell, and Deptford. The 39 cases of puerperal fever notified during the month included 4 in Fulham, 4 in Stepney, and 3 each in Kensington, St. Pancras, Shoreditch, Wandsworth, and Lewisham. Of the 5 cases of cerebro-spinal meningitis, 2 belonged to Southwark, and 1 each to Islington, Finsbury, and Bethnal Green; and of the 13 cases of poliomyelitis 3 belonged to Lambeth and 2 to St. Pancras.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the population of the several boroughs. During the five weeks ending Jan. 3rd the deaths of 6437 London residents were registered, equal to an annual rate of 14·9 per 1000; in the three preceding months the rates had been 13·3, 13·7, and 13·5 per 1000 respectively. The death-rates last month ranged from 11·0 in Lewisham, 11·5 in Wandsworth, 11·8 in Hampstead, 12·6 in Chelsea, and 13·1 in Lambeth, to 17·1 in Poplar, 17·2 in Holborn, 17·4 in Bermondsey, 17·6 in Southwark, 19·4 in the City of London, and 19·7 in Shoreditch. The 6437 deaths from all causes included 300 which were referred to the principal infectious diseases; of these, 20 resulted from measles, 23 from scarlet fever, 50 from diphtheria, 50 from whooping-cough, 14 from enteric fever, and 143 from diarrhœa and enteritis among children under two years of age. The lowest death-rates from these diseases last month were recorded in Kensington, Hammersmith, the City of Westminster, Greenwich, and Woolwich; and the highest rates in Paddington, Fulham, Stoke Newington, Shoreditch, Bethnal Green, and Bermondsey. Only 20 fatal cases of measles were registered last month, against a corrected average of 221 in the corresponding period of the five preceding years; of these 20 cases 6 belonged to Camberwell, 4 to Southwark, 3 to Deptford, and 2 to Battersea. The deaths from scarlet fever numbered 23, the corrected average being 24; 3 cases belonged to Southwark, and 2 each to Paddington, St. Marylebone, Islington, Hackney, Poplar, Lambeth, and Camberwell. The 50 fatal cases of diphtheria were 11 below the corrected average number, the greatest proportional mortality from this disease being recorded in Paddington, Fulham, Stoke Newington, and Shoreditch. The 50 deaths from whooping-cough showed a decline of 20 from the corrected average number, and caused the highest death-rates in Fulham, St. Pancras, Finsbury, Shoreditch, Bethnal Green, and Poplar. The 14 fatal cases of enteric fever were 3 below the corrected average number, and included 3 in Battersea, 2 in Wandsworth, and 2 in Lewisham. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Fulham, Stoke Newington, Finsbury, Shoreditch, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was more than 60 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: G. Gibson to the *Indomitable* and F. J. Burns to the *Orion*, both on recommissioning. Staff-Surgeons: S. H. Vickery to the *Orion*, on recommissioning; and R. S. Osborne to the *Victory*, additional, for the *Birmingham*. Surgeons: A. R. Price to the *Indomitable*, on recommissioning; and C. V. Griffiths to the *Pembroke*, additional, for disposal.

ROYAL ARMY MEDICAL CORPS.

Captain William J. S. Harvey to be Major (dated Jan. 14th, 1914). Supernumerary Lieutenant Percival D. Warburton is restored to the establishment (dated Jan. 24th, 1914).

Supernumerary Lieutenant George E. Dyas is restored to the establishment (dated Jan. 24th, 1914).

Lieutenant Sumner H. Smith is confirmed in his rank.

Colonel F. H. Treherne, honorary surgeon to the Viceroy and Governor-General of the East Indies, has taken up duty at Meerut Cantonment as Assistant Director of Medical Services, vice Colonel E. Butt. Colonel C. Birt has relinquished the appointment of expert in tropical diseases to the Army Medical Advisory Board.

Lieutenant-Colonel D. Shanahan, on return home for duty from the Ninth (Secunderabad) Division of the Southern Army in India, has been appointed to the Eastern Command. Lieutenant-Colonel G. A. T. Bray has been selected for appointment as Deputy Surgeon to the Royal Hospital at Chelsea, vice Lieutenant-Colonel H. E. Winter. Lieutenant-Colonel J. M. F. Shine has been appointed to hold charge of the Military Hospital at Nowshera Cantonment. Lieutenant-Colonel H. I. Pocock has joined at Murree. Lieutenant-Colonel R. J. Copeland has taken up duty on the Headquarters Staff at York as Medical Inspector of Recruits to the Northern Command. Lieutenant-Colonel E. Eckersley has been placed under orders for transfer from the Seventh (Meerut) Division to the Fourth (Quetta) Division of the Southern Army in India. Lieutenant-Colonel H. M. Adamson has been selected for appointment to hold charge of the Military Hospital at Belgaum Cantonment. Lieutenant-Colonel G. F. H. Marks has joined at Dalhousie. Lieutenant-Colonel T. Du B. Whaite has been placed under orders to embark for a tour of service in the Third (Lahore) Division of the Northern Army in India.

Major M. Babington has been selected for appointment as Clinical Pathologist to the Queen Alexandra Military Hospital. Major M. J. Cromie has been placed under orders to embark for a tour of duty in the West Indies. Major J. A. Turnbull has been appointed to Kamptee Cantonment. Major J. V. Forrest has taken up duty in the London District. Major E. McDonnell has been transferred from Lydd to the Military Hospital at Shorncliffe. Major D. Harvey has been selected for appointment as Clinical Pathologist to the Royal Army Medical College at Millbank, vice Major J. C. Kennedy, who has embarked for a tour of service in India. Major W. C. Croly has taken up duty at Mount Abu. Major W. P. Gwynn has been appointed to the Dublin District. Major N. H. Ross has embarked for a tour of duty in India. Major H. G. F. Stallard has been transferred from Peshawar Cantonment to the Military Hospital at Mhow Cantonment. Major P. S. O'Reilly has taken up duty at Gravesend. Major E. E. Parkes has been ordered to embark for India. Major F. Harvey has embarked for a tour of service in India. Major E. P. Connolly has been transferred from the Military Hospital at Murree to Rawal Pindi Cantonment. Major A. H. Safford has taken up duty at Lucknow Cantonment. Major J. S. Bostock has been appointed to the Aldershot District. Major A. W. A. Irwin has been transferred from the Military Hospital at Clonmel to Limerick. Major G. A. Moore has been selected for appointment as Specialist in Otology to the Cambridge Military Hospital at Aldershot. An exchange has been approved on the roster for service abroad between Major L. Humphry and Major A. W. Hooper, D.S.O.. Major W. S. Harrison has been placed under orders to embark for a tour of service at Jamaica. Major W. R. Blackwell has been appointed Senior Medical Officer on board the transport s.s. *Rohilla* which left Karachi for Southampton on Jan. 16th with tour-expired troops.

Captain M. J. Lochrin has arrived home for duty from India. Captain T. H. Scott has been appointed to the Northern Command. Captain E. D. Caddell has been transferred to the Home Establishment. Captain H. Gall has

joined at Sialkot. Captain D M. Middleton has arrived home for duty from India. [illegible] T. [illegible]
been appointed to the Eastern [illegible]
Carter has been selected for [illegible]
Advanced Operative Surgery [illegible]
pital at Aldershot. Captain [illegible]
home for duty from India. [illegible]
appointed to the Irish Comm [illegible]
embarked for a tour of serv [illegible]

[illegible]

arrival from Egypt. Captain A. C. Amy has been transferred to the Home Establishment for a tour of duty from India Captain W. J. Tobin has been transferred from the Military Hospital at Bangalore Cantonment to Madras. Captain A. H. Heslop has been appointed for duty on board the transport s s. *Rohilla* Captain R. G. Meredith has taken up duty in Ceylon. Captain J. G. Bell has joined the Military Hospital at Singapore. Captain T. H. Dickson has embarked for a tour of service in India. Captain T. C. Lucas, *surgeon to the Governor of Bombay Presidency*, has been granted four and a half months' combined leave of absence home from India. Captain O. R. McEwen has been appointed for duty on board the s s *Reua*, which left [illegible]

[illegible]

Kavanagh, A. H. Jacob, H. G. Gibson, and M. P. Leahy. Captain J. L Wood, on arrival home from India, has been [illegible]

[illegible]

Lancaster to Liverpool. Lieutenant J. B Grogan has been [illegible] Hospital at Cosham on transfer
[illegible] Plain Lieutenant W. F Christie
[illegible] of service at the Military Hos-
pital, Si [illegible]
to the M [illegible]
C. Heln [illegible]
tenant V [illegible]

[illegible]

placed under orders to embark for India. Lieutenant B. Biggar has joined at Cairo Lieutenant E. C. Lang has been [illegible] Military Hospital at the Curragh Camp
[illegible] enant W. Stewart has left the
[illegible] of service in India Lieutenant
[illegible] rred from the Military Hospital
at Jubbulpore to Kamptee Cantonment. Lieutenant T. H Balfour has been transferred from the Boards Camp to Fort George. Lieutenant O W J Wynne has left the London District for a tour of service in India. Lieutenant C. J Blaikie has been transferred from the Military Hospital at Aldershot to Ewshott. Lieutenant M. Burnett has been appointed to Winchester.

INDIAN MEDICAL SERVICE.

Brevet Colonel H F Cleveland, assistant director of medical services to the Aden Brigade, has been appointed Honorary Surgeon to the Viceroy and Governor General of the East Indies. [illegible]
[illegible] rived
[illegible] mis-

[illegible]

on return from leave of absence, has been appointed to hold
[illegible] ce Major F. V. O. Beit.
[illegible] erred from Benares and
[illegible] arge at Gonda. Major
[illegible] at Maymyo, has been
[illegible] at Calcutta Major D
McCoy has arrived home on leave of absence from India Major J. E. Clements has been appointed for permanent [illegible]
[illegible] ed Provinces of Agra
[illegible] been appointed to
[illegible] Officer at Salem.

Captain C. L Dunn has been granted leave of absence home from India for six months The services of Captain G. Holroyd have been placed temporarily at the disposal of the Government of the United Provinces of Agra and Oudh for employment in the Jail Department Captain J Anderson has been appointed to hold civil medical charge at Miranshah Captain A. T. Pridham, Superintendent in the Burma Jail Department, has been appointed to hold executive and medical charge of the Central Jail at Mandalay. Captain A. M. Dick has been [illegible]

[illegible]
of leave of absence hom [illegible]
Captain F. P. Wernick [illegible]
medical charge of the E [illegible]
has relinquished charge [illegible]
Captain N. M. Wilson Captain P K Tarapore has been [illegible]

[illegible]

TERRITORIAL FORCE.

Royal Army Medical Corps.

Notts and Derby Mounted Brigade, Field Ambulance, Royal Army Medical Corps Lieutenant Colonel Lewis W. [illegible] and is granted permission
[illegible] prescribed uniform (dated
[illegible]

2nd East Anglian Field Ambulance, Royal Army Medical Corps. Lieutenant Colonel John H. Stacey resigns his com-
[illegible] nk and
[illegible] Medical
[illegible] (dated
Jan. 1st, 1914).

1st West Riding Field Ambulance, Royal Army Medical Corps. Captain Alexander D. Sharp to be Major (dated Jan 24th, 1914).

2nd Welsh Field Ambulance, Royal Army Medical Corps: Arthur Frederick Bernard Shaw to be Lieutenant (dated Dec 8th, 1913)

Welsh Clearing Hospital, Royal Army Medical Corps. Captain Ashley Bird, from the List of Officers attached to Units other than Medical Units, to be Captain (dated Dec. 20th, 1913)

ROENTGEN SOCIETY —The next meeting of this society will be held on Tuesday, Feb. 3rd, at 8 15 P M., at the London Hospital, Whitechapel, when Dr Gilbert Scott will conduct visitors over the X Ray and Electro Therapeutic Departments of the hospital, give a demonstration of the Wilson Portable Coil Apparatus, and show a number of plates The honorary treasurer of the society, Mr C. E S Phillips, Castle House, Shooter's Hill, Kent, reminds members that their annual subscriptions are now due.

THE SIXTH INTERNATIONAL CONGRESS OF SOCIAL WORK AND SERVICE —Under the patronage of the King and Queen, and the presidency of Prince Arthur of Connaught, an International Congress dealing with State, municipal, and voluntary social work will be held at the London University, South Kensington, W., in the week ending June 5th, 1915 An executive committee, with Sir William J. Collins as chairman, has been formed, and among the members of the committee is Sir Shirley F Murphy. The subjects at present selected for discussion are: (1) Thrift in its Relation to Relief; (2) International Provisions for the Assistance of Deserted Children, (3) The Assistance of Families of Prisoners and Extradited Persons; (4) The Care and Control of the Mentally Defective (general reporter Sir H. Bryan Donkin); (5) *State Insurance* and Hospitals; (6) The Relation of the Municipality to Public and Private Assistance; (7) The Housing of the Working Classes; and (8) The Work of School Care Committees The membership subscription is 20*s*. All communications with reference to the congress should be addressed to the secretary or the treasurer at Denison House, Vauxhall Bridge road, London, S W.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 205.)

XXXV.—LONDON: EVIDENCE IN FAVOUR OF THE ACT.

LONDON is so huge that a feeling of bewilderment naturally assails the bold individual who would attempt to describe what is happening in that vast metropolis even though called upon to deal with but one subject. But it must be remembered that, when that subject is the health and the maintenance of health of all employed persons under the income-tax limit, we are dealing with a matter whose bearings and ramifications are boundlessly extensive.

Again, it is particularly hard in London to draw general conclusions on anything; much of one's experience must be secured from isolated and individual circumstances. There is no place in the world where it is easier to hide than London, as every criminal knows. Neighbours do not fraternise with each other and there is little local life developed by local spirit. Nowhere do people live such isolated lives; and therefore investigations are specially difficult for want of connecting links which enable the investigator, when once started, to go from one to the other end of a chain till he has covered the ground mapped out. Still, it is easy to see in regard to our present subject, the working of the Insurance Act, that the dividing lines are very sharply defined in London. The partisans of the Act and the opponents of the Act do not merge. On the contrary, they are drawn up in battle array against each other. There is in London no mere reluctance to work the Act, but associations are specially organised in opposition of the Act. By such bodies the panel doctors are still denounced as traitors to the flag, and this is no mere outburst of fervid oratory, but is expressive of deep conviction. As a result of such denunciations, or rather it may be fairer to say of the spirit which has led to their utterance, the London panels are understaffed. Then while doctors have been refusing to serve, insured persons have, on their side, refused to avail themselves of the services of the panel doctors. As a consequence, a huge unallotted fund has accumulated, and the law does not say with sufficient distinctness how this money is to be utilised. Nevertheless, and though there are so many insured persons who keep away from the panel doctors, some of these practitioners have a far greater number of insured persons on their list than should be allowed.

Unequal Distribution of Doctors and Patients.

At the end of December, 1913, there were 1370 doctors on the London panel which corresponds with the London County Council area. Of these, 92 were medical officers of hospitals, asylums, and various institutions. For the ordinary panel practice there were 1278 medical men available and there are a little more than 1,500,000 insured persons. If evenly divided each insurance doctor should have 1161 persons on his list and an income of a little over £400 a year. But the insured persons are not evenly divided, and a quarter of a million, or a sixth of the total, have not selected any panel doctor whatsoever. That would mean an average of but 1000 per panel doctor, or £350 a year. Such averages, however, are utterly misleading when it comes to actual practice, for in London there are many panel doctors who have not 500 insured persons on their list, while others have several thousands. In one case the tremendous figure of 6000 is said to have been reached. The argument has been presented that many insured persons do not trouble to select a panel doctor before they are ill. In support of this contention it is stated that 75 per cent. of the insured who had inscribed their names on a doctor's list sought his advice during the course of the year. But if this was the reason why so many insured persons have as yet no doctor, it would be the same in all parts of London. The contrary is the case. It is in the better class residential suburbs, and especially in the West-end, where practitioners are much more numerous than elsewhere, that a very large amount of insured persons, and far more than a sixth of the total insured inhabitants of those quarters, have not thought fit to select a panel doctor. It is in districts where the Act is not popular that so many of the insured will not avail themselves fully of its benefits. Political antipathy, or perhaps a question of social prestige, and not freedom from illness accounts for the fact that a quarter of a million Londoners have not yet selected their panel doctor.

As an unfortunate contrast to this state of things it is just where there are the fewest doctors that the insured persons have displayed the most readiness to inscribe their names. Indeed, one of the great difficulties is the uneven distribution of medical practitioners over London, and one of the good effects of the Insurance Act is that it will tend towards at least a partial remedy of this defect. I have been told that in Shoreditch there is only one medical practitioner for every 5000 of the population. On the other hand, in Kensington there is one doctor for every 500 inhabitants.

The National Insurance Practitioners' Association.

When the British Medical Association was organising resistance against the measure in its earlier stages there was in London a conviction that a large body of practitioners were anxious to take service under the improved Government terms. It was very evident that in the industrial areas the income and the sense of security of the working man's doctor would be greatly improved. Any amount of bills were never paid; the medical practitioner lost his drugs and got nothing for his time or trouble. If the thought that very probably the patient would not pay his bill could be removed the doctor would not hesitate to attend. Secure in the possession of a sufficient, even if still a modest, income, the poor man's doctor should certainly be better able to put his heart into the work, and vast multitudes throughout the East and industrial districts of London get better medical attendance than they had ever enjoyed before. With the prospect of such solace where it is most needed, the demurring of practitioners more favourably situated in respect of *clientèle*, but who feared to lose fees from a proportion of their patients now coming under the operation of the Act, might well be ignored, said those who were reconciled to the extension of contract practice by the promises of reform which it offered. A movement was started to protect those practitioners who were anxious to go on the panel.

The National Insurance Practitioners' Association came into being early in December, 1912. A month, however, had barely elapsed when the British Medical Association itself withdrew from its attitude of uncompromising opposition and allowed its members to go on the panel. Thus the newly formed National Insurance Practitioners' Association lost its principal *raison d'être* before it had time to come completely into being. It determined to cease active propaganda, but to maintain a watching brief. New members who offered to join were not encouraged, I am told, and after the month of May last were positively refused. There was, indeed, not much active work to do. In London, as in Edinburgh, a very large number of practitioners refused to join the panel, but in the greater part of the country the resistance melted away. The association was to have helped the victims of adherence to the principles of the Act, but there seemed very few victims. At first some doctors were boycotted because they had enrolled themselves for panel service, but it is impossible to say that much overt hostility of this sort went on. Consequently the new association devoted its energies to improving the conditions of panel practice. They were thus mainly instrumental in doing away with the huge book in which detailed entries had to be made, and substituting for it the much simpler record card system. In December, 1913, after having lived for just one year, the National Insurance Practitioners' Association decided that it had fulfilled its mission and that its continued existence was no longer needed. The society dissolved, its members being advised to join the British Medical Association and the Local Panel Committees. It is to these committees that the practitioners who are working the Act in London seem principally willing to entrust their future prospects. The British Medical Association, although it has in part absorbed the National Insurance Practitioners' Association, is accused of being under the guidance of members of the profession not personally involved in the working of the Act, so that it cannot properly understand the position of a great majority of practitioners who hold modest positions and do the hard and least agreeable work. The British Medical Association, I have been told more than once by those who are strongly in favour of the Act, has closed its eyes to the alleged fact that at least 10,000 medical practitioners in the kingdom were not only willing to go on the panel, but so realised the great advantages held out to them that nothing could possibly keep them away from accepting service under the Insurance Act.

Improvement of Poor Practices.

The practitioners in the industrial districts are so much better off now that they can afford to refuse badly paid work. Where a practitioner was ready and willing to accept midwifery cases paid at from 10*s.* to 15*s.*, he is to-day asking for a guinea or 30*s.* This would have caused ill-feeling, were it not that the poor can see two sides to the matter. Formerly a poor family would pay the medical attendant very inadequately, 10*s.* to 15*s.* out of their meagre wages. To-day the maternity benefit supplies enough money to pay the doctor adequately. Formerly the fee would cost the family perhaps more than a week's wages. If the poor used to pay less they had to save to pay, and had not the right to expect such good attendance as that to which they are now entitled, nor was there a great force of public opinion behind them to raise a storm if they were not properly treated.

The quality of service given in return for the better and safer pay has been questioned, but I have come across, or been told of, little unedifying behaviour on the part of panel practitioners. But whether it be in regard to midwifery cases or other cases, I was very positively assured that no practitioner who does his work well need fear coming up before the Medical Service Subcommittee to answer a charge of neglect. The laymen who participated in such inquiries were keener than the medical men themselves in detecting flaws in the evidence. I was very emphatically assured that the laymen on the London Insurance Committee showed the greatest consideration for the medical profession. There were no complaints that the medical men's point of view had not been properly considered. Even in the rather difficult question of prescribing no trouble has arisen. The drug bill for London may exceed the eighteenpence per insured person, but it is still hoped to save threepence out of the floating sixpence, and these threepences come up in London to a total of close upon £19,000 to be added to the income of the panel doctors.

Under these greatly improved financial conditions it is maintained that the poor and industrial districts of London have now a fairly well paid medical service. What is in colloquial parlance termed "a rotter" cannot be regenerated by an Act of Parliament. Granted that there are black sheep among the medical profession—and of course there are, but the proportion is most creditably small—the modern doctor, the newly qualified practitioner, who enters upon his career need no longer degenerate as he used to do through service in an East-end dispensary. The sixpenny doctor is dying out because he can now afford to refuse patients who want to pay less than 1s. As the pay improves so will the attendance improve. Thus the claim that the health of the people is better cared for gains fresh force in these facts.

Such is the story from one point of view. In my next article I propose to give an outline sketch of the motives and methods of those who have resisted the Act in London.

(To be continued.)

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Moritz Katzenstein, *privat-docent* of Surgery, and Dr. Max Zondek, a well-known surgeon, whose specialties are kidney and bone operations, and Dr. Oskar Wagener, *privat-docent* of Otology, who has been temporarily lecturing in the Greifswald University, have been granted the title of Professor. Dr. Arthur Pappenheim, whose researches on the pathology of the blood in the "second" medical clinic of the Charité have received a good deal of attention, has been recognised as *privat-docent* of Medicine.—*Breslau:* Dr. Gustav Drehmann, a well-known orthopædic surgeon, and Dr. Hans Aron, formerly professor of physiology in the Manila University, also Dr. Karl Hueter, prosector of the Municipal Hospital, Altona, have been granted the title of Professor.—*Konigsberg:* Dr. Walter Carl has been recognised as *privat-docent* of Surgery.—*Leipsic:* Dr. Georg Herzog has been recognised as *privat-docent* of Pathological Anatomy and General Pathology.—*Pavia:* Dr. Giuseppe Mariani has been recognised as *privat-docent* of Dermatology and Syphiligraphy.—*Prague (German University):* Dr. W. Rubeska, *privat-docent* of Midwifery and Gynæcology, has been granted the title of Professor.—*Rome:* Dr. Paola Alessandrini has been recognised as *privat-docent* of Neurology.—*Salamanca:* Dr. Santamaria has been appointed to the chair of Clinical Medicine.—*Shanghai:* Dr. H. Dold, *privat-docent* of Hygiene and Bacteriology in the University of Strasburg, has been offered the chair of Hygiene.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LEEDS.

Adoption of the Notification of Births Act, 1907.

THE city council, acting as the local authority for the city of Leeds, have adopted the Notification of Births Act, 1907, and by order of the Local Government Board this came into force in the city on Jan. 1st. A circular has been issued from the Town Clerk's office and sent to all medical men within the borough, setting out the provisions of the Act and the duties falling to be carried out by medical men in connexion with its adoption in Leeds. A covering letter from the medical officer of health has accompanied each circular asking for the coöperation of the profession in the working of the Act. Dr. J. Spottiswoode Cameron especially asks that medical men will indicate those cases in which a visit from one of the women inspectors would be of benefit. Of these women inspectors, who have done much good work in Leeds, there are at present six. These have under them four probationers, and it is the intention of the authorities to increase the number both of the trained inspectors and of those who are learning the work. The adoption of the Act in Leeds will, it is hoped, be attended with a lessening of the death-rate of infants, and may lead to an improved physique, especially among the lower classes.

The Leeds Public Dispensary.

The annual report of this institution shows a continuance of the useful work of the charity. In addition to a large out-patient department a very important part of the work consists in the attendance on necessitous patients in their own homes. Last year the number of visits made was 6760. Certain changes in the staff which have recently taken place should be mentioned. Mr. Michael A. Teale, who was appointed ophthalmic and aural surgeon some ten years ago, has resigned his position. It is Mr. Teale's intention to give up the practice of his profession and devote himself to art. Those who have been associated with Mr. Teale in his work and have known its excellence cannot but view his decision with regret, though they know that it is based on a long-cherished desire, and though they may see for him a successful career in his new work. With Mr. Teale's retirement Leeds finds itself without a member of the Teale family in active practice. This has not been the case for 116 years, for about the year 1797 Mr. Teale's great-grandfather began practice in the town. I have just been informed by Mr. T. Pridgin Teale that some of the patients seen by his grandfather had been attended to by his son during the earlier years of his work. Mr. Pridgin Teale is happily still with us, and though for a good many years he has been living in retirement from his profession he continues to take a keen interest in medical matters, and especially in those dealing with medical education. The vacancy created by Mr. Teale's resignation has been filled by the election of Dr. Harry Lee, and Mr. Teale was elected a member of the honorary consulting staff. As honorary physician Dr. J. le Fleming C. Burrow has been appointed to fill the position vacated by the resignation of Dr. G. W. Watson. Mr. A. Richardson takes the place of Mr. G. L Wells, whose death we have had recently to lament.[1] Dr. J. Godwin Greenfield has been appointed pathologist.

Jan. 27th.

MANCHESTER.

School Children and Cinematograph Shows.

THE Lancashire elementary education subcommittee has conducted an inquiry as to the effect of cinematograph shows on children attending the elementary schools of their area. Practically all the head teachers in the districts in which such shows exist agree that the shows are physically detrimental to the scholars in consequence of late hours, loss of sleep, and bad atmosphere. The subcommittee's finding is:—

> While conceivably cinematograph shows might be of some little use if arranged specially for educational purposes, it is doubtful whether, even then, the gain would outweigh other disadvantages. Under present conditions in the county there is no doubt that they serve no real educational good purpose.

In 28 districts there were 86 shows. The headmasters report that the majority of the children who attend these shows belong to the poorest families, and that over 50 per cent. regularly visit them. A number go three times a week and some every evening to the various houses. As to the effects on the children, the report says:—

> The pictures shown have lowered the moral sense; scholars think less of cruelty, lying, deception, and even theft; the children are less thrifty, they value money lightly, and derive a thirst for pleasure and amusement; some children actually steal to find money for admission.

In the opinion of the medical staff definite fatigue is caused by attendance at the shows, and the children who attend them are usually pale and tired. More especially in the smaller districts, where the picture houses are adapted buildings, there are overcrowding and bad ventilation, causing fatigue and favouring the spread of infectious diseases. It is proposed to send a copy of the report to the clerks of the county justices with a request that the latter will bring it forward when the time arrives for granting licences.

Notification of Births Act in Salford.

The Salford town council has decided to adopt the Notification of Births Act, and when the Local Government Board has announced its consent the Act will be put into operation. This Act was passed in 1907. Salford, however, had a method of its own for the notification of birth. When the Act is in force notification will be compulsory.

Measles to be no longer Notifiable in Oldham.

The Oldham health committee has decided to withdraw measles from the list of notifiable diseases.

Manchester Hospitals and the Need of Radium.

It has been suggested that a joint effort should be made in Manchester by the hospital boards to obtain a supply of radium for the treatment of malignant disease. It would appear that there are only two hospitals in Manchester in which hitherto any use has been made of radium—the Christie Cancer Hospital and the Skin Diseases Hospital By a combination of the friends of the hospitals it is suggested that a sum of £4000 should be raised by subscription in order to obtain at least two separate quantities of 100 milligrammes each. Should the money be subscribed and the radium obtained, it is further suggested that a small joint committee should have control of its use, so that precedence shall be given to the most needy cases and to those in which there would be the greatest likelihood of good results. The question of raising a public fund to secure a supply of radium for the treatment of malignant and cancerous diseases in Manchester is under consideration by the board of the Royal Infirmary, which institution in 1912 had between 400 and 500 in-patients under surgical treatment for cancer, besides out-patient cancer cases and those undergoing X ray treatment, which rose in number from 32 in 1909 to 107 in 1912.

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[1] THE LANCET, Nov. 29th, 1913, p. 1583.

Jan. 27th.

BRISTOL.

Research in Bristol.

THE Colston Research Fund Committee, administering money handed to it by the University Colston Society of Bristol, has reported on another year's work. The report bears witness to the activity and catholicity of the spirit of investigation in Bristol. Among the researches that have been supported there are several of medical interest. The department of physiology is responsible for inquiries into the nature of surgical shock, the principles of rectal alimentation, industrial fatigue, and the auriculo-ventricular connexions of the human heart. This latter investigation derives its significance from the fact that it was Professor A. F. Stanley Kent, who now describes connecting tracts between auricle and ventricle other than the auriculo-ventricular bundle, who was responsible for the original discovery of that bundle. The establishment of these facts must lead to important modifications in modern cardiac pathology. Professor F. H. Edgeworth's work on the cranial muscles and their nerve-supply is also alluded to; and work is being carried on in the pathology department in regard to dental bacteriology. A typhoid carrier has apparently been cured, after many efforts, by the use of a specially prepared autogenous bacterial emulsion. Other subjects which bear indirectly on medicine are the effects of small electric currents at low voltage on micro-organisms, the work of M. Nierenstein in regard to the manufacture of cheese and the chemistry of the commercial tannins, and the principles of soap manufacture. It is clear that there is a group of practical investigators at work in Bristol, and that they have good premises to work in will be granted by anyone who inspects them. An important addition to the resources for medical research is the new pathological department of the General Hospital, while the chief handicap to original work in the field of medicine lies in the strong opposition, which is still maintained by a few influential people, to experiments on animals. Happily there are signs of a more enlightened attitude, and with this obstacle removed much should be achieved. Recently Professor F. Gowland Hopkins, representing the National Insurance Research Committee, visited the Bristol laboratories and made many useful suggestions as to the possibilities of organised and assisted research.

Somerset County Tuberculosis Sanatorium.

At the last meeting of the Somerset county council the Insurance Act Tuberculosis Subcommittee presented its report recommending the adoption of a site near Wells. An amendment asking for expert opinion on this site (which is alleged to be too low, too near the Sedgemoor marshes, and difficult as to drainage and water-supply) was defeated by 41 votes to 10, the majority evidently feeling that sufficiently expert opinion had already been expressed in favour of the site.

Bristol Insurance Committee.

Among the many data disclosed by the chairman of this committee in his recent references to the past year's work it is interesting to note that less than 12 per cent. of the deposit contributors, who number about 2500, had applied for sickness benefit. He also stated that there were 916 notifications of tuberculosis during the year, 376 of them among insured persons and 540 among the uninsured.

Lord Mayor of Bristol's Hospital Sunday Fund.

The collections for this fund were taken on Sunday last and the Lord Mayor has issued his appeal for help, which describes the work done by the four chief institutions (the General Hospital, the Royal Infirmary, the Children's Hospital, and the Eye Hospital), and states that they need an increase of £9000 in their annual income. As usual, the number of patients who attended during 1912 is used as a basis for this appeal. Last year the introduction of the National Insurance Act did not affect the collections as was feared; and this year's appeal points out that the Act has in no way lessened the need for special treatment such as the institutions alone can give.

Bristol Dispensary.

The work of this institution was sensibly diminished during 1913 as a result of the introduction of National Insurance. It is clear, however, from the remarks made by Mr. Fenwick Richards, the chairman, at the annual meeting, that not everyone has yet assimilated the idea that persons insured against sickness under the Act are provided for in respect of ordinary illness and therefore not in need of institutional medical care except under special circumstances. He asked subscribers to find out whether those who applied to them for dispensary notes were really in need of them, and a little care at this stage of the application would save the dispensary, as well as the applicant, a good deal of trouble.

Bristol Eye Hospital.

At the annual meeting of this institution the report which was read showed an increase in the amount of work done. There were 522 in-patients and 8559 out-patients; this included 140 operations for cataract and 3400 refraction cases. The total ordinary income was £2276 and the expenditure £2727; this sum shows, as the Lord Mayor remarked, that the hospital is economically managed, and he appealed for an increase in the list of annual subscribers.

Bristol Eye Dispensary.

The chief features of the annual report are that the number of new cases was 2946, a slight decrease as compared with 1912, owing partly to the Insurance Act and partly to an arrangement with the education authorities whereby refractions in school children are done elsewhere; the election of Mr. H. G. Doggett to the presidency in the room of Mr. P. J. Wasley, resigning after 20 years' service; and a favourable balance of £9 on the year's work.

Jan. 27th.

IRELAND.

The Certification Question.

THE outstanding question arising from the National Insurance Act and concerning the medical profession in Ireland for many months back has been that of payment for certificates given under the Act. It was hoped last August, when Mr. Lloyd George promised to find a sum of money sufficient to meet the demands of the profession, that a speedy settlement would be arranged. I understand that for some months past important negotiations have been proceeding between the Insurance Commissioners and the medical profession, and that, on the whole, the progress of the discussion was encouraging to the profession. It was confidently hoped that a scheme satisfactory to all parties would be settled. Having heard the opinions of the medical profession, I understand that the Commissioners then summoned a conference of representatives of the Friendly Societies. Here the difficulties begin. The wishes of the societies are so far removed from those of the profession as to render a settlement satisfactory to both parties almost impossible. The profession lays down as a first principle of any scheme of certification that the certificate is to be that of the patient's own medical attendant, or, to put it more accurately, that the certificate of the member's medical attendant is to be regarded as *primâ facie* evidence of fitness or unfitness. The societies, on the other hand, or rather those who speak for them, are demanding that the entire certifying should be done by special whole-time officers. In other words, they suggest that what is required is an extension of the system which, established last summer, has succeeded in satisfying no one. The Commissioners have no easy task to reconcile these divergent ideals. The point forgotten by the societies is that the object of demanding a medical certificate is not to place obstacles in the way of members obtaining benefits to which they are entitled. That medical referees have been employed by certain societies in Ireland for this sole purpose is one of the gravest scandals which have arisen under the National Insurance Act. The true object of the medical certificate should be quite as much to secure his rights for the sick member without delay or difficulty as to safeguard the funds of the society. This is recognised by the more experienced societies, who also realise the futility of trying to carry on insurance work in a state of active hostility to the medical profession. In their present demands these saner societies seem to have been carried away by the heat of a few officials of the newer and less experienced societies.

Guardians and Medical Certificates.

At a recent meeting of the Edenderry board of guardians a resolution was carried to the effect that no medical officer acting as locum tenens for a colleague in case of illness should sign a medical certificate for such colleague. The circumstances which led to such an astonishing principle being laid down were simply that one of the medical officers, Mr. W. R. G. Hamilton, was ill, and that his illness had been certified by his colleague, Dr. J. J. Kinsella, who was doing duty for him. At the following meeting of the board a letter of protest against the insult contained in the resolution was received from all the medical officers of the union. It is satisfactory that a full apology was at once tendered, the board admitting that the resolution was unwarranted and had been passed without consideration.

Election of a Dispensary Medical Officer.

Extraordinary scenes took place at the election by the Westport guardians last week of a successor to the late Mr. J. J. McGreal, whose death from poisoning was recently recorded in the press. The board room was crowded with visitors interested in the election, including several clergymen, who, by permission, addressed the board in favour of the several candidates. All the candidates pledged themselves to be bound in their private practice by a scale of fees drawn up by the board.

Belfast Hospital for Sick Children.

At the forty-first annual meeting of the supporters of the Belfast Hospital for Sick Children held on Jan. 22nd it was reported that 585 (325 medical and 260 surgical) patients were treated in the wards during the year 1913, and 4622 (2383 medical, 1503 surgical, 595 eye, ear, throat and nose, and 141 dental) in the extern department. Forty-five senior students are attending the cliniques. To meet current expenditure there is in hand a sum of £492 7*s.* 4*d.*, and during the past year there was an excess of income over expenditure of £126 19*s.* 9*d.*, and £176 11*s.* have been invested.

Jan. 27th.

PARIS.

Anticholera Vaccine.

Professor Babès, of Bucharest, a former pupil of the French school, who always keeps his most interesting communications for Paris, recently reported to the Académie de Médecine his results in Roumania during the Balkan war with anticholera vaccination. He considers its value established, and that it may now take its place in current therapy. But as it is valuable more particularly as a preventive its action on the development of an epidemic can be established only when an entire community exposed to the disease has been vaccinated. As with antityphoid inoculation, its protection is complete only after at least two inoculations; one is not sufficient. There is a negative phase, during which the subject is more susceptible. The second vaccination should take place from six to eight days after the first. This also is followed by a very slight negative phase, but confers subsequently a stronger and more lasting immunity, the duration of which, however, is at present only a matter of conjecture. Bacillus carriers have been vaccinated without accident or reaction, but such vaccination does not appear to diminish the time during which the bacilli can inhabit the intestine. Moreover, M. Babès thinks that bacillus carriers, on a careful investigation, will be found to be less numerous than is thought, and that in the great majority of cases they do not retain the vibrios more than from 2 to 5 days. M. Babès has also made another interesting observation in the isolation camps—viz., that those who present the first symptoms of cholera do not show vibrios in their stools at the examinations made immediately preceding the symptoms. The incubation period of cholera, therefore, cannot be, as is commonly supposed, about 5 days, but only from 24 to 48 hours. As to the transmission of cholera germs by persons coming from infected regions, M. Babès holds that when they have left these regions for more than 14 days the transmission, if it occurs, is due neither to bacillus carriers nor to those incubating the disease, but rather to the conveyance of the germs on the clothing, linen, or in food. Prophylaxis, according to M. Babès, consists in early recognition and immediate and complete isolation of the first cases, with a rigorous disinfection and prompt vaccination of all contacts and the seeking out and isolation of germ carriers, not to mention the supervision of drinking water and the disinfection of fruit and vegetables. M. Babès insists that bacillus carriers do not constitute a very great danger, and that they are not found after the close of the epidemic. It is, therefore, hardly likely that it is by their means that an epidemic extinguished in the autumn breaks out again in the following spring. The vaccine can be prepared *en masse* when an epidemic threatens. M. Babès uses a large bottle holding from 1 to 4 litres, the internal surface of which is coated with a film of gelose. Twenty-four hours after insemination the bottle contains up to a litre of vaccine.

Comparative Statistics of Tuberculosis in the Precincts of Paris.

The Committee on Tuberculosis of the Conseil Général de la Seine has published comparative statistics of the mortality due to tuberculosis in 1896 and 1911 in the precincts of Paris. A comparison of deaths from tuberculosis with the general death-rate gives the following results. In the arrondissement of St. Denis in 1896 there were 1565 deaths due to tuberculosis out of a total of 10,615, or 14·7 per cent., as against 2939 from tuberculosis in 1911 out of a total of 15,558, or 18·9 per cent. In that of Sceaux in 1896 the tuberculosis deaths were 962 out of a total of 7850, or 12·33 per cent., as against tuberculosis 1692 deaths, out of 11,608, or 14·58 per cent., in 1911. The proportion of deaths from tuberculosis relatively to the number of inhabitants is as follows: St. Denis, in 1896, 332·4 deaths from tuberculosis per 100,000 inhabitants, the proportion rising in 1911 to 397·9. In Sceaux, in 1896, 297 deaths from tuberculosis per 100,000 inhabitants, the proportion rising in 1911 to 330·2. These figures show so rapid an increase of tl [illegible] Paris as to call for the [illegible] tuberculosis campaig [illegible] social causes whose influence remains inevitable, of which the chief is the influx into the capital of an increasing number of young people of both sexes who do not tolerate well the change of environment. This population, which comes especially from the poorer classes, herds together in overcrowded lodgings without the restraint of family ties, and becomes a speedy prey to alcoholism.

Jan. 27th.

SOUTH AFRICA.

The Position of the Nursing Profession in South Africa.

THE registration and examination of nurses and midwives in South Africa are at present in the hands of the Medical Councils of the different provinces constituting the Union. In the case of applicants holding certificates from other authorities registration is granted if the certificates are considered satisfactory. The requirements of the different councils in regard to local training vary considerably. In some cases the length of training extends from three to four years, according to the institution selected; in other cases certain institutions only are recognised, while institutions recognised by one council are not always recognised by another. The character of the examinations is uneven, and the tests do not adequately appraise the candidate's fitness for certification, much theoretical and but little practical knowledge of nursing being required. The general opinion by those in a position to judge is that the whole system requires thorough revision. This also seems to be the view of Government inspectors. In regard to nurses from overseas, certificates from other than large British hospitals are looked upon with suspicion as a rule, and recently several nurses, who have been trained in large continental hospitals, have been told that they must sit for examination if they desired registration. The value of trained nurses is being constantly recognised, and their position is improving year by year, the supply being considerably less than the demand. All the State-aided hospitals, other than those institutions which are able to undertake the training of probationers, have to employ temporarily numbers of unregistered nurses. It is probable that before long an attempt will be made to organise the nursing profession, which at present is without any recognised body to look after its interests, and already[1] a local nursing journal has been started. It is not unlikely that the Government may be induced to bring in legislation in the near future for the purpose of establishing a central nurses' and midwives' board in place of the four Medical Councils which have outlived their usefulness as registering authorities for nurses. The law, too, requires alteration in other respects, for, except perhaps in the matter of securing hospital appointments, it is no advantage for a nurse or midwife to be registered in South Africa. A number of locally trained nurses and the majority from overseas do not register, and find no difficulty in securing remunerative employment.

Dec. 28th, 1913.

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[1] THE LANCET, Jan. 10th, 1914, p. 153.

A CENTENARIAN.—Miss Ritso, of Bath, celebrated her 102nd birthday on Jan. 26th. Her great-uncle, Dr. Grimm, was Court Physician to the Duke of Gotha. Her father, mother, and sister each lived to be nearly 100.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr J. A. Hirschl, assistant in the Vienna University Clinic for Mental and Nervous Diseases.—Dr. Wilhelm Bernoulli, of Basle, an eminent botanist, aged 75.—Dr. L. Kessler, extraordinary professor of gynæcology in the University of Iurieff (Dorpat).—Dr. P. Muselier, formerly physician to the Paris hospitals.—Dr. Giuseppe Cesari, professor of materia medica in the Modena Medical School.—Dr. G. Henry Torney, Director-General of the Medical Service of the United States Army.

A CORONER WHO HAS HELD 15,000 INQUESTS.—Mr. S. Brighouse, of Ormskirk, has just completed 30 years of service as coroner for the South-West Lancashire district, which includes Southport, Bootle, St. Helens, Widnes, and 77 other townships. Mr. Brighouse was appointed on Jan. 16th, 1884. During these 30 years he has conducted nearly 15,000 inquests, entailing over 180,000 miles' travelling by road, car, and rail. In the first year of his coronership nearly 500 inquests were conducted in public-houses; by 1913 the number had fallen to 80. Probably the most notable of the inquests conducted by him was that in connexion with the Maybrick case, which lasted several days and cost the country £265, the depositions extending to over 300 folios. The longest inquest held was in connexion with the Maypole disaster, which opened in August, 1908, and concluded in July, 1909.

Correspondence.

"Audi alteram partem."

TUBERCULOSIS DISPENSARIES IN LONDON.

To the Editor of THE LANCET.

SIR,—Recent occurrences have again brought before the profession the question of the public treatment of tuberculosis in the London area. After two years of consideration, perhaps too brief a period, a scheme has been evolved which represents approximately, if not the decision of the Local Government Board, at least a form of authoritative suggestion. It would appear from the wording of the document in which this is embodied that its inspiration is attributable in a considerable degree to the views expressed at a meeting of representatives of the twelve principal hospitals of the metropolis on Oct. 23rd, 1913.

The views of the public health departments have likewise received a full measure of attention. Proposals drawn up by the London County Council in a somewhat simplified form are practically identical in character. Local administration, including the immediate control of finance, is entrusted to the borough councils. General details of management, such as the keeping of statistical and other records, hardly call for comment at the present stage, but there are two principal considerations to which attention may profitably be directed. One is the relation of general hospitals to the dispensary system, the other the connexion with it of the public health department. At the meeting of hospital representatives decisions were arrived at on three points. 1. That it is important in the interest of the public and of medical education that general hospitals which are also medical schools should be utilised to the fullest extent in the treatment of tuberculosis in the London area. 2. That any local institution carrying out dispensary treatment shall refer special cases for consultative purposes to appointed hospitals. The hospitals named are: St. Bartholomew's, London Hospital, Guy's, St. Thomas's, University College, Charing Cross, St. George's, Westminster, King's College, St. Mary's, Middlesex, and the Royal Free Hospital. 3. That in addition to being recognised for consultative purposes, such institutions should, where they desire, also act as tuberculosis dispensaries, and in respect of such work should conform to the general conditions regulating dispensary treatment elsewhere. These conditions have been more or less completely incorporated both in the arrangements proposed by the Local Government Board and in those of the London County Council, the Board recommending that where a hospital is conveniently situated arrangements should be made enabling it to act as a local tuberculosis dispensary, while the County Council is prepared to deny approval to a dispensary which is not affiliated to a hospital to which special cases shall be referred for diagnosis or treatment. As regards the medical officer of health, while he continues doubtless to exercise the preventive and statistical duties of his own department as heretofore, it is provided by the Local Government Board that in the case of dispensaries established by the borough councils the medical officers of these dispensaries shall be attached to the staff of the public health department, and though they shall be independent in clinical matters they shall act under the administrative control of the medical officer of health, and further that visits from voluntary dispensaries shall be made under his direction. These restrictions apparently do not apply in the case of hospitals doing dispensary work. In addition there is provision made in the plan of the County Council for home visitation by the medical officer or his staff as well as by the tuberculosis officer in charge of the dispensary. It is thus apparent that the independence in clinical matters allowed to the medical officers of these institutions is of a strictly limited character.

Such in substance is the system approved at the present time by the Local Government Board and the Council for the County of London. That it is a genuine attempt to deal effectively with the treatment of tuberculosis there is no reason to doubt. It would be gratifying to find that it showed an equally clear perception of the bearings of the problem under consideration, and of the values and the relations of the forces available to deal with it and an equal judgment in coördinating them. Unfortunately this is not the case, for the proposed arrangement is lacking in some of the main factors of success. It accepts without reserve the propositions that have been set forth by the hospital representatives, which are at best of a one-sided character, and it is not too much to say that from this point of view the case has been overstated.

Recourse to hospitals is undoubtedly advantageous on many occasions, both for consultative and therapeutic purposes. This is particularly true in regard to tuberculous disease presenting difficulty or complexity, surgical tuberculosis, and advanced cases requiring treatment in bed. It applies probably more forcibly to specialised than to general hospitals, which are in comparison with institutions o the former class not much frequented by the tuberculous except for operative procedure. It mus also be recognised that the greater hospitals have educational requirements. They must have the means of supplementing theoretical study by clinica observation. All this may be freely admitted, but i does not necessarily follow that they are bes adapted to conduct tuberculosis dispensaries a part of their system.

There are conveniences, notably that of proximit to the homes of patients, which should be bette observed by the establishment of separate dispensaries in suitable situations in each borough area. A further and important consideration is the certain stimulus which institutions so placed would give to the efficiency of treatment carried out by local practitioners, on whose alertness and proficiency the extirpation, if that be possible, o tuberculosis must in the long run chiefly depend It is improbable that the hospital dispensary would prove equally useful in this respect. On the other hand, there should be no difficulty in providing the hospitals with those facilities for clinical teaching which they require, and it would be easy to associate the tuberculosis dispensary extramurally with the tuition of the medical school. This is done elsewhere in connexion with general medical treatment.

The position of the medical officer of health i the proposed system is even more open to criticism

He represents that section of the medical profession which has devoted itself to purely sanitary work. With clinical treatment, even in the preventive stage, he has no natural or proper concern, and, as a rule, but slight acquaintance. In view of this fact the statement that he and his staff will take part in home visitation requires to be explained. It can rightly apply only to the regulation of domestic surroundings. The examination of suspects and contacts belongs to the practitioner. There is the same sense of incompatibility when we find him empowered, apparently as a matter of routine, to direct visitation by the medical officers of the dispensary, who would presumably be competent men, while the clinical staff appears to be regarded merely as an appendage of the public health department. In truth the selection of the medical officer of health as the administrative head is in itself an anomalous proceeding which it is difficult to associate with normal ideas of proportion. All this executive elaboration makes for overlapping, confusion, misunderstanding, and friction. Smooth and efficient working would be better provided for by making the departments of treatment and sanitation independent while supplemental to each other, and by giving their officials distinct representation with a common responsibility to the local authority as the governing body.

There is one important omission in the scheme under examination—namely, the general practitioner. This is a serious error which, if not amended, cannot fail to prejudice the successful attainment of the objects aimed at. It can hardly be said that he has been definitely excluded. Except in so far as voluntary dispensaries with which he may be connected come under notice, he has been simply ignored. Yet he is the one man who in illness comes nearest with assistance, and who is and always will continue to be most relied upon by rich and poor alike. It is scarcely too much to say that if he remains true to his professional duty, which is probable, the future of medicine is in his hands. The significance of such a mistake as this is the more apparent when we reflect that the practitioner of the present day is a materially different type from his predecessor of the last generation. He has exact knowledge and scientific training, which he understands how to apply in practice. He also recognises in the treatment of tuberculosis, whether in the dispensary or in the home, an opportunity that falls legitimately within his sphere of action. His coöperation is under the circumstances essential to the success of any project for the treatment of this disease, and his abstention means its failure. To whatever misconception or default in counsel his omission is to be attributed, it can only be regarded as one proof the more that this scheme, in which he is not found, requires reconsideration.

I would briefly sum up the foregoing observations in these three propositions:—

1. That the tuberculosis dispensaries, while working in harmony with available hospitals, should be distinct from, not attached to them.

2. That public health departments should coöperate with, but not control, the dispensaries, the local authorities (borough councils), on which both are represented, being the governing bodies under the Local Government Board.

3. That duly qualified general practitioners should be eligible for all clinical offices connected with the dispensaries

I am, Sir, yours faithfully,

Islington, N., Jan. 27th, 1914. B. G. MORISON.

THE USE OF VACCINES IN PNEUMONIA.

To the Editor of THE LANCET.

SIR,—The prevalence of pneumonia at the present time makes Sir R. Douglas Powell's letter in THE LANCET of Jan. 24th of timely interest. It is to be hoped that those who have used vaccines in this disease will respond to his appeal for an expression of opinion. His own practice, of suggesting that a vaccine should be prepared from the sputum early in the attack, to be used in the event of continued severity or relapse of symptoms, and in some cases of slow resolution, probably represents that of most physicians. Vaccines are used as a last resort in cases doing badly.

My own practice is to regard every case as a possibly fatal one and to give a vaccine as early as possible after the onset of symptoms. Little immediate good can be expected when consolidation is present, for antibodies cannot penetrate into the solid airless lung. However, since all the lung is not in the same stage and parts may be in the condition antecedent to consolidation, good sometimes results. In the early stages of the disease before consolidation we are dealing with a septicæmia, and a vaccine then gives striking results. In a few cases I have been fortunate enough to give a vaccine within 24 hours of the initial rigor, in one case eight hours after the rigor. In these cases there has been an immediate response, and the after-course of the disease was profoundly modified. Usually the temperature fell to normal on the second or third day of the disease. In the case injected eight hours after the onset there was no further rise above 99·8° F., although consolidation occurred. Generally after the first fall the temperature rose again to a moderate height, and finally fell to normal after a second dose of vaccine. A recent case may be given as an illustration. A man, aged 46, had a severe rigor at 7 P.M. on Jan. 10th and his temperature rose to 105·2°. He was seen by me in consultation exactly 24 hours afterwards. His temperature then was 103·6°, respirations 32, pulse 116, rusty sputum, soft mitral systolic murmur. The only physical sign in the lungs was characteristic subdued breathing at both bases. His general condition was flabby, and we regarded him as a distinctly bad subject for pneumonia. A dose of 30 millions stock vaccine was given at once. At 6 o'clock the next morning the temperature was 100°, pulse 96, respirations 24. On Jan. 13th, 36 hours after the injection, the temperature was 98°, pulse 72, respirations 24. On the 14th the temperature rose again to 103°, pulse 108, respirations 40. Bronchial breathing was now present at both bases. A second dose of an autogenous vaccine containing 50 millions pneumococci and 50 millions micrococcus catarrhalis was now given. The temperature fell to normal next day and remained constantly normal. He was sent away to the seaside exactly 14 days after the initial rigor.

So striking have been the results when vaccine was injected early that I would urge the adoption of this practice. The amount of consolidation is probably determined by the events of the first few hours of toxic invasion, yet a consultant rarely sees a patient at this stage when so much could be done. It may be argued that if cases are injected early there is no proof that the cases really had acute *pneumonia*. But the sharp rigor, dry hot skin, rusty sputum, pulse and respiration ratio, and general appearance of the patients could scarcely be due to any other disease. It is an interesting point that in cases injected early *consolidation* may develop, although the temperature and pulse-rate are little above normal and the patients do not feel ill. The general symptoms improve out of proportion to the local disease. But it is unnecessary to wait for consolidation before making a diagnosis and giving a vaccine any more than one waits for the report on the throat swab before giving diphtheritic antitoxin.

If a vaccine is given at the commencement of the disease it must be a stock one. Owing to differences in strain it is advised that this should be a polyvalent vaccine. But the *difference* between strains is mainly one of virulence, and my own practice is to use a vaccine from a culture of high virulence. For some time I have been using one derived from a rapidly fatal case of pneumococcic meningitis. When possible I make an autogenous vaccine for each case, but I am not convinced that such a vaccine has any advantage over a stock vaccine from a virulent culture except when the infection is mixed. Many recent cases have shown the micrococcus catarrhalis, but even then one can assume that the pneumococcus is the predominant organism.

Unsuccessful results have been obtained by the use of inadequate doses. Doses of 5 to 10 millions are quite useless. My own doses have ranged from 25 to 50 millions, and with increasing experience I find myself inclining to the larger dose. I have not used more than 50 millions as an initial dose, but I now think that this dose may be too small to abort the disease, and that a still larger dose would give better results. Sir Almroth Wright has found small doses frequently repeated absolutely ineffective, and suggests that a dose of 500 millions might be tentatively employed at the outset of a pneumonia attack. The fear of a negative reaction has prevented many from using vaccines in pneumonia. I have never detected clinically any signs of a negative reaction after the doses I have used. Sir Almroth Wright, in connexion with his prophylactic inoculations, gives reasons for thinking that this stage may make default in the uninfected person and in the early stages of infection with doses of less than 1000 millions of a pneumococcic vaccine, which is with difficulty broken down in the body. If this fear can be abolished the way will be open for a more extensive use of vaccines in acute diseases.

Probably no physician has had a sufficient number of cases to furnish satisfactory statistical evidence, and such evidence as can be brought forward may fail to convince others who have not seen the cases which furnish it. But individual expressions of opinion may, I hope, encourage others to use vaccines promptly in this fatal disease.

I am, Sir, yours faithfully,

Birmingham, Jan. 25th, 1914. WILLIAM H. WYNN.

THE STERILISATION OF MILK AND ALLIED QUESTIONS.

To the Editor of THE LANCET.

SIR,—Dr. Eric Pritchard's letter in your last issue should suffice to dispose of Dr. Ralph Vincent's statement as to the "appalling effects" of feeding children on cooked milk; and I should not ask space for a few lines but for the reason that it occurs to me that your readers may be interested in an extract from a letter sent to me on August 6th, 1906, by the late Professor Budin—the founder (in 1892) of the present-day Consultations de Nourrissons, of which I believe there are at least 15 in Paris at the present time. Budin was a great clinician and a man who weighed his words most carefully; and his experience in the matter under dispute is of exceptional value, because at his Consultations children were kept under observation from birth until the age of 2. He writes that he made it his great concern always to give a carefully considered ("nettement déterminée") quantity of milk in order to avoid trouble; and writing after 15 years' experience he says, "Jusqu'ici je n'ai pas observé *un seul cas* de scorbut infantile." He maintains, with Variot and others, that it is the faulty amount and modification of the milk that give rise to such infant maladies, and not the cooking; and Budin found (as I have found upon inquiry in several cases brought to my notice) that in cases of alleged ill-effects from the use of cooked milk there have always been other factors to be reckoned with, which were, to say the least, quite as likely to have been responsible for the disturbance complained of. That the cooking of the general, 4*d.* per quart, milk-supply is a certain means of reducing the sum of sickness and mortality among the artificially fed infant population generally is conceded by all those who have tested the fact on a sufficient scale, although no one disputes that cooked milk, like breast milk, may prove unsuitable to occasional infants.

I am, Sir, yours faithfully,

HENRY KENWOOD.

University College, London, W.C., Jan. 27th, 1914.

To the Editor of THE LANCET.

SIR,—The letters by Dr. Ralph Vincent and Dr. Eric Pritchard in your last two numbers represent two opposing views on a question which is of extreme importance to all who are concerned with the feeding of infants. The paramount importance of breast-feeding is accepted by all, but, in spite of every effort to encourage breast-feeding, we are faced with the fact that under present conditions of civilisation there must always be a fairly large proportion of artificial feeding. Dr. Janet Lane-Claypon has shown in her report to the Local Government Board on the biological properties of milk, that breast-feeding, even if it is only for the first few weeks of life, is of extreme importance because it supplies the infant with those bodies which can only be secreted by, and absorbed from, an animal of the same species; she also says that the "biological substances" in raw cow's milk are not absorbed in the infant's alimentary canal but are destroyed there. If this is true, then one of the main contentions for the use of raw cow's milk is done away with. I wish to call the attention of all who are interested in this controversy to an important piece of work which they should read before they express an opinion.

If we consider, as most of us do, that raw milk is better for the infant than heated milk, we must add two important qualifications to our opinion: (1) That milk as delivered to the mother and given to the child shall be reasonably free from dangerous bacteria and their products, and (2) that the infant's digestion shall be able to cope with raw milk. For a milk to be reasonably free from bacteria, it should come from a herd free from tuberculosis, it should be efficiently cooled immediately after milking, and it should be kept cool until used for feeding. It is doubtful whether these conditions obtain at any but the model farms, and it is more than doubtful whether any of these model farms could supply milk at a price to place it within reach of the poorer classes of our large towns and still be worked at a profit. To those working in town areas this question of price is an all-important one. The second qualification is not so important, but there is no doubt that to many babies with impaired digestive powers heated milk is more digestible than raw milk, and at the same time that many infants who have to be fed artificially at an early age have from one reason or another impaired digestive powers when weaned.

Two other questions must also be answered: (1) Is there any danger of a baby contracting tuberculosis if it receives a certain number of tubercle bacilli of the bovine type from the cow's milk it takes? and (2) If there is such danger, is it better to use cow's milk heated at home by the mother or to use dried milk which has been sterilised soon after milking? The first question must be answered in the affirmative, and most emphatically so. The recent researches of Dr. Mitchell on cervical adenitis show that 90 per cent. of 72 consecutive cases were due to the bovine type of bacillus, whilst clinical experience in areas where tuberculosis is common leads one inevitably to the conclusion that tuberculous milk is responsible for a certain amount of the tuberculosis of early life. The fact that the amount of tuberculosis amongst cattle and amongst children varies in different localities may account for differences of opinion on this point.

If we think it advisable to avoid the danger of infection by bovine tuberculosis from raw milk we are forced to the conclusion that it is better to use heated milk. "Scalding" milk—a process that is similar to pasteurisation—does not apparently injure any of the chemical substances necessary to the health of the child. Therefore, if we consider that these chemical substances are necessary for the health of the child we should recommend scalding or pasteurisation of milk. Probably if the supply is reasonably pure this is the best thing to do. But if the milk is of doubtful age and cleanliness it is another matter, and we must consider the value of a full-cream dried milk. At the Manchester Schools for Mothers, at the Children's Hospital, and elsewhere I have watched a very large number of babies who have been fed on either scalded cow's milk or sterilised cow's milk or full-cream dried milk, and although I began with a prejudice against dried milk and expected to find a large proportion of rickets or scurvy amongst the babies so fed, I am bound to say that as a result of careful inquiry I am now of the opinion that dried milk gives better results than sterilised cow's milk, and I have no evidence that there is special advantage in using scalded milk. The question of the expense of dried milk as compared to scalded need not be discussed here, although it is, of course, of great practical importance. Further, at the Schools for Mothers it appears that not only are babies fed on dried milk less likely to develop diarrhœa in the summer than are babies fed on heated cow's milk, but also, what is more important, they are less liable to suffer from severe attacks of this disease. The fault lies in the present supply of raw milk, and it is bound to take time to overcome inertia and prejudice against new methods, to instal efficient apparatus, and to educate mothers up to the requisite standard. Most excellent work is being done by many public authorities to these ends, and any controversy that helps to further their efforts and to bring fresh evidence to light is of the greatest value.

I am, Sir, yours faithfully,

Manchester, Jan 26th, 1914. C. PAGET LAPAGE.

TREATMENT OF GASTRIC AND DUODENAL PERFORATION.

To the Editor of THE LANCET.

SIR,—In considering the treatment advocated by Mr. Edred Corner in his interesting paper published in THE LANCET of Jan. 10th, it is, I believe, very important to make a clear distinction between gastric and duodenal perforations.

Mr. Corner refers to two successfully treated gastric perforations, but implies that the treatment adopted in those cases is also applicable to perforated duodenal ulcers. This is, I think, a mistake; the possible results are quite different in the two groups of cases. In fact, the distinction is vital; a duodenal fistula practically never closes spontaneously, and the loss of the secretions which flow into the duodenum involves rapid death from inanition, while on the other hand a gastric fistula when not adherent to the abdominal wall tends to close rapidly, and the temporary escape of the gastric secretions on to the surface of the body, though possibly in some cases annoying and troublesome, is not of vital importance.

In certain cases during the past seven years I have from time to time employed a method somewhat similar to that which Mr. Corner recommends. The total number of gastric and duodenal perforations on which operation has been done is 35 with 8 deaths. This number includes 16 gastric cases with 3 deaths. Of the 16 gastric perforations, 10 were closed by suture and 6 were not sutured. In the 10 sutured cases there were 2 deaths; in the 6 unsutured cases there was 1 death. There is therefore a slight balance in favour of the unsutured cases. With regard to morbidity there is little to choose between the two groups. Subphrenic abscess developed in one of the unsutured cases and in two of the sutured cases. All three recovered after secondary transthoracic operation and long illnesses. In none of the unsutured cases was there any trouble from discharge of the gastric secretions; in some we could not be sure that there was any escape; in two only did evident leakage continue into the second week; in none was wound healing unduly prolonged.

I think it is important to point out, however, that the above applies only to one group of gastric ulcers—viz., those situated very high up on or close to the lesser curvature; all other gastric perforations were closely sutured. It is to be noted that one at least of the cases mentioned by Mr. Corner belongs to this group. In the earlier cases I anchored a drainage-tube, with a suture of No. 1 unchromicised catgut, close to the site of perforation and packed gauze loosely around the tube. In later cases I have eliminated the gauze altogether and simply used the tube, with no difference in the results and with avoidance of the trouble associated with removal of the gauze.

With regard to duodenal cases the situation is quite different; in 19 cases (duodenal and pyloric) there have been five deaths; in two cases the perforation was not closed and both patients died. One of these, a lad aged 18 years, was sent in three weeks after the onset of the illness with an abscess involving the whole right side of the abdomen from chest to thigh and pointing in the right iliac fossa. The abscess was incised, and pus, sloughs, bile, and curdled milk escaped; the cavity was found to extend far upwards. A second drainage incision was made in the loin; more bile-stained fluid and milk curd escaped; the source of leakage could not be found; the cavity was packed. The patient lived for some weeks, the fistula persisting and discharging intermittently. Death ultimately occurred from inanition. Post mortem the fistula was found to communicate with the second part of the duodenum.

The second case was that of a stout elderly man who had perforated eight hours previously. The perforation was found down in the second portion of the duodenum, and was brought within reach by incising and stripping up the peritoneum to the outer side of the viscus. The whole anterior wall of the second part of the duodenum was a thick, hard, œdematous plaque. The first linen suture cut out; the second did likewise. Two sutures of thick catgut were then passed through the whole thickness of the duodenal wall from side to side of the perforation and tied gently, approximating the margins of the opening simply edge to edge. A large drainage-tube was placed with its end in contact with the perforation and packed around with gauze. A gastro-enterostomy was not done because it appeared that owing to the situation of the lesion—i.e., opposite to or even below the level of the orifice of the bile and pancreatic ducts—an anastomosis would be likely to increase rather than diminish the risk of leakage. The patient rallied well and remained well until the third day, when duodenal fluids began to escape from the wound; the quantity of discharge—bile and pancreatic juice—steadily increased, till it became enormous. There were no symptoms of peritonitis. The patient died from inanition on the fifth day after operation.

I feel sure that any method (including omental plugging) which involves the possibility of a fistula, though sometimes useful in certain perforations on the gastric side of the pyloric sphincter, is very dangerous when employed in the treatment of a corresponding duodenal lesion.

I am, Sir, yours faithfully,

Middlesbrough, Jan. 25th, 1914. WM. S. DICKIE.

RESEARCH DEFENCE SOCIETY.

To the Editor of THE LANCET.

SIR,—By the death of its revered President, Sir David Gill, the Research Defence Society has suffered a very heavy loss. His death has come at the time when our society is just beginning the sixth year of its work, and we ask you kindly to publish this short note on the result of the past five years of work. We are of opinion that our society has helped to bring about a much better understanding of experiments on animals in this country. There is less of ignorance, prejudice, and ill-will; less readiness to accept without inquiry the charges made against this method of research; less doubt of its great value in physiology and pathology. The public is beginning to see that experiments on animals are useful in the maintenance of national health and efficiency, in the protection of men on foreign service, in the safeguarding of workers at dangerous trades, and in the immunising of live-stock against infectious diseases. It has come home to thoughtful people that diphtheria antitoxin, thyroid extract, salvarsan, amyl nitrite, and many other drugs, and many important facts in physiology, and the protective treatment against rabies, cholera, plague, Mediterranean fever, typhoid fever, tetanus, anthrax, and pleuro-pneumonia—to name these instances and no more—were discovered by the help of experiments on animals.

Of course, our society must not take more than its share of the credit for this advance of public opinion. Much of it is due to the labours of the Royal Commission, to the influence of the resolution passed last year by the International Medical Congress, and to the reverses sustained by our opponents. Moreover, the discoveries made of late years by medical research speak for themselves. Still, there is always need of interpreters of science to explain in simple words the advantages given to us by men of science for the saving or safeguarding not only of human lives but of animal lives. This work of popular interpreting is the especial duty of the Research Defence Society, and we look forward to many years of continued usefulness.

We remain, your obedient servants,
CROMER, Vice-President.
F. M. SANDWITH, Hon. Treasurer.
S. PAGET, Hon. Secretary.

21, Ladbroke-square, London, W., Jan. 27th, 1914.

THE DUCTLESS GLANDS.

To the Editor of THE LANCET.

SIR,—I have been very interested to read your section on Obstetrics and Gynæcology in the "Annus Medicus 1913" contained in your issue of Dec. 27th last. With the views put forward in your discussion of Dr. W. Blair Bell's lectures on the ductless glands and pelvic organs I am in entire accordance. It is indeed true that our knowledge of this subject as regards actual facts is very small, and it is also true as you state that "at the present time there is a widespread tendency to attribute all kinds of varying errors of metabolism to disturbances of one or other of the ductless glands when practically nothing is known with any certainty." You point out that Dr. Bell finds fault with Biedl because in his book there is no attempt to link up the connexions that exist between the ductless glands in regard to the specialised functions, and you express an opinion, with which I cordially agree, that Biedl has been right in refraining up to the present time from any such attempt. The facts at our disposal have so far not been sufficient to warrant us in drawing any very definite conclusions as to the interactions between the various organs furnishing an internal secretion.

Perhaps I may be allowed to point out that reviewers of my own book on internal secretion have in a similar manner complained that I have not dealt fully and definitely with this aspect of the subject. Thus, the *Universal Medical Record* says: "The broad conception of play and interplay between the various secretions, with the possibly balancing function of some of them, is nowhere given free expression." The reason for my hesitation to give "free expression" to this branch of the subject, as also presumably Biedl's reason, is admirably indicated in your own article, and amounts to a declaration that so far we have not had enough positive information from which to draw any general conclusions. I hope, however, in a future edition to make an attempt to correlate our knowledge on this branch of the subject, and any definite information which can be culled from the writings of Dr. Bell and other clinicians will be welcomed and incorporated.

I am, Sir, yours faithfully,
SWALE VINCENT.
University of Manitoba, Winnipeg, Jan. 6th, 1914.

DOSAGE AND THE METRIC SYSTEM.

To the Editor of THE LANCET.

SIR,—I have read with very much interest Dr. C. O. Hawthorne's able paper on Dosage in THE LANCET of Jan. 24th. With reference to his advocacy of the use of the metric system in dosage, I would inform both him and your readers that I have received an official notification from the General Medical Council that all measures in the next edition of the Pharmacopœia will be in the metric system, including those referring to dosage, but that in order to facilitate the use of the Pharmacopœia by medical men dosage will be given alternatively in the Imperial system also; the latter will be the only use of the Imperial weights and measures throughout the work. This procedure, which appears to meet Dr. Hawthorne's suggestions, has received in advance the approval of the pharmacists, and this association has taken the liberty of suggesting a similar procedure on the part of all those who are responsible for the preparation of unofficial pharmacopœias.

I am, Sir, yours faithfully,
G. E. M. JOHNSON,
Secretary, the Decimal Association.
Finsbury-court, Finsbury-pavement, E C, Jan. 26th, 1914.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Though agreeing that the possibility for a patient to be attended by the doctor of his or her choice is of considerable value, I think it is putting the case too strongly to maintain that "the free choice of a doctor is the matter upon which everything turns." If it is of such importance, why is it that in the past the great majority of the population have been deprived of that right without protest? Why is it that even now it is denied to that most unfortunate section of society, the recipients of Poor-law relief? Their destitution, which brings them under the Poor-law, is generally the result of sickness, and it is of great importance to restore these patients to health as quickly as possible and so to make them once again self-supporting. Yet they are chained to a doctor selected for them by the guardians, and no insistent demand has been made by the profession to extend to them the right of "free choice," which just now is said to be of such great therapeutic value. The public has not been loud in its demand for this right, and the question arises whether the doctors' demand is purely altruistic and for their patients' good, or whether at the bottom there is not a feeling on the part of each individual doctor that he stands to gain.

You state that at the recent conference of Friendly Societies a proposal in favour of a State Medical Service was rejected by a substantial majority. This is true; but it was rejected in favour of the Friendly Societies' control of medical benefits, which would abolish the right of "free choice." The Scottish Clerks' Association proposed a resolution that steps should be taken to transfer the administration of medical benefits to the Approved Societies under the Insurance Act. As a direct amendment to this, Mr. T. W. Huntley, of Newcastle-on-Tyne, moved a resolution in favour of a State Medical Service, which was afterwards altered to "a full-time salaried medical service." This was lost by 89 to 16, and the original resolution was carried. A resolution standing in the name of Mr. George Cronin, of the Manchester Union, in favour of a State Service was then put and lost by 65 to 22. During the discussion no one pleaded for the present panel system with its free choice of doctor. The fight was for control by the Friendly Societies *versus* a State Medical Service, and of the two alternatives the great majority were in favour of the former. And the fight is not over; the Friendly Societies mean to gain control of the medical benefits and of the doctors if they possibly can. From the point of view of the medical profession there is nothing to be said in favour of the control of medical benefits by the Friendly Societies, but there would be many advantages in a State Medical Service, and as the trend of events is rapidly leading that way it would be wiser for the profession itself to prepare a scheme which would not be unacceptable to its members rather than allow a scheme prepared by Government lay officials to be thrust upon it. It would be possible under a State Medical Service to extend the possibilities of "free choice" to practically the whole population, and at the same time to do away with certain evils which are inherent to the necessity of catering for patients.

I am, Sir, yours faithfully,
CHARLES A. PARKER.
Upper Wimpole-street, W., Jan 26th, 1914.

THE NATIONAL INSURANCE ACT: THE SURPLUS FUNDS.

To the Editor of THE LANCET.

SIR,—In your issue of Jan. 10th, p. 149, you made some observations on a correspondence which has taken place with regard to the funds for medical remuneration retained by the London Insurance Committee. I should like to call attention to a point which has not been given due prominence in this correspondence.

The new agreements were signed, not in April, but before March 22nd, 1913, at which date we were still under the impression that an allocation of the residue would be made between April 1st and 14th, and Circular M.B. 9 of March 18th, which accompanied the agreements and directed their return before March 22nd, contains a reference to the coming allocation. It was not until the early days of April that we were informed that the allocation was postponed.

No medical man who is not in the habit of signing in blind faith unread documents would have signed that agreement accepting remuneration according to the schedule except on the understanding that an allocation would have been made by April 14th. The failure to make the allocation is no reason for repudiating the agreements; the worst that can be alleged against the committee is that their clerk was culpably optimistic as to the ability of his staff to cope with their enormous task, seeing that by the end of October they had only been able to trace about 40 per cent. of the insured who had chosen their medical attendants. But I think it is a valid reason for excluding from the operation of the schedule the remuneration due from those entitled to benefit before April 14th, 1913, who should have been allocated at that date. This view of the case is supported by the statement on p. 7 of that delightful pamphlet addressed to the profession by the Commissioners in December, 1912, which says that this method of calculating the remuneration will only apply "when the system is in full working." This pamphlet may not have the legal force of the Regulations, but at any rate shows the intentions of the Commissioners. Again, Circular 29 IC (*vide* The Lancet, Oct. 4th, 1913, p. 1032) recommending a distribution of unallotted persons quarter by quarter would also show that the Commissioners realised that remuneration according to the schedule would only be equitable provided there were no accumulated funds from the preceding quarters.

I certainly took Mr. Masterman's statement in the House of Commons on July 14th last to refer to this particular difficulty, and regarded it as an assurance that we should receive payment at the rate of 7*s.* a year for each of our acceptances during the year for whom 7*s.* was payable, though doubtless it also had reference to deductions for the Central Fund, about which the Commissioners were discreetly silent in the pamphlet of December, 1912. The Commissioners have made arrangements for us to receive full remuneration for the coming year, substituting the acquisition of powers of telepathy by the Panel Committee in place of the hard work previously demanded of the staff of the Insurance Committee, and I have no doubt will see that the remuneration for the past year is equitably divided amongst us.

Individual actions against the committee should be a last resort, but if all other means fail it is only fair that, if the committee were liable to be surcharged if they distributed our remuneration, they should also be liable as a surcharge to recompense any medical man who can prove that he has suffered loss through their neglect to make adequate provision for securing an allocation of the residue in April.

I am, Sir, yours faithfully,

Wells street, W., Jan. 19th, 1914. J. M. Twentyman.

To the Editor of The Lancet.

Sir,—Your legal correspondent says, in answer to my suggestion that a part at any rate of the unallotted insurance funds should be held in reserve for payment of doctors who, having gone to the aid of a midwife, are unable to get their fees from very poor patients, that "this hardly seems possible in view of the fact that the National Insurance Act, 1913, repeals the portion of Section 18 of the original Act, which permitted the fee of the medical practitioner in the circumstances indicated to be 'recoverable as part of the maternity benefit.'"

This repeal was made at the instance of the Midwives Institute, backed up by 55 affiliated associations of midwives in different parts of the country, for the wording of the old clause made it appear as if the societies would be responsible for the "recovery" of the doctor's fee as part of the maternity benefit, resulting in the societies holding back, in very many instances until the woman was up and about, the whole or part of the benefit from midwives' cases. This naturally prejudiced midwives and inflicted a great hardship on the poorest of insured persons, for whom the benefit was devised, and who most needed it during the puerperium. Your correspondent speaks of the *maternity benefit*, while I refer to unallotted funds for *medical benefit*—in my opinion two distinct things. These funds are no doubt still accumulating.

In considering my suggestion no one could say that the doctors would not be earning the money, which is a point raised by those who object to the whole unallotted funds being divided up amongst the doctors on the panel who have not been chosen by the insured people whose contributions are under consideration.

I am, Sir, yours faithfully,

Janet Ewart St. Clair,
Honorary Secretary, Fulham Association of Midwives.
Irene road, S.W., Jan. 25th, 1914.

⁂ Miss St. Clair is no doubt right as to the effect of the repealed section in practice; and the Insurance Commissioners would relieve poor women in childbirth from a difficulty which often presses hardly upon them if they could see their way to fall in with her suggestion.—Ed. L.

CHILLEY v. BRADFORD.

To the Editor of The Lancet.

Sir,—In the above case the jury held that a nurse was negligent because, on giving a sedative, she did not remove from the bed, or otherwise protect the patient from, a covered indiarubber hot-water bag, which had been placed there about an hour and a half previously, and with which the patient subsequently before his operation burnt himself.

The sedative in question I understand to have consisted of 1/6 grain of morphia and 1/120 grain of atropine given hypodermically, but, of course, the finding of the jury includes all sedatives and affects the ordinary practice and routine of hospitals, private or otherwise, and raises a question of some importance to the medical profession, as in the above case, though I was not held to have been personally negligent, I was held responsible for the alleged negligence of my nurse.

I am, Sir, yours faithfully,

Anthony Bradford, M.D. Durh.
Henrietta street, W., Jan. 24th, 1914.

⁂ The case is elsewhere dealt with.—Ed L

A CATALOGUE OF SUFFERING.

To the Editor of The Lancet.

Sir,—The system of election to the benefits of certain charities by a poll of subscribers has some obvious drawbacks as well as some advantages. One of the latter is the contact which it establishes between the subscribers and the nature of the work which is carried on by their money.

The Hospital for Incurables at Putney, for instance, sends out twice a year a voting paper, revealing an amount of human misery calculated to appal far more callous persons than those who subscribe to that splendid charity. Medically speaking, the column headed "Disease or Disability" is full of interest. At first sight it is surprising to find among the 192 candidates for the benefits of the society at the recent election not a single case diagnosed as malignant disease or as pulmonary tuberculosis. The explanation is probably to be found in the delay which necessarily ensues before a patient can be accepted; it always takes months, and generally years, to reach this much coveted haven of refuge, either as an in-patient or as a pensioner. Heart disease, again, is less prominent than might be expected; seven cases alone appear, and in most of them some other condition is superadded. Aneurysm and Bright's disease are absent from the list altogether. Turning to the common causes of disability, "rheumatoid arthritis" is diagnosed in 58 cases, and chronic rheumatism, osteo-arthritis, and rheumatic gout account for another 14—an eloquent proof of our therapeutic helplessness for these intractable disorders. The other main group is that of the paralyses, which includes at least 73 cases, and probably more. The diagnoses of these disorders are so confused that in the majority of cases it is impossible to identify the extent and nature of the disease. In a few cases disseminated sclerosis, locomotor ataxia, myelitis, and paralysis agitans are specified; but "paralysis" is the only label attached to the bulk of the cases. The point is of minor importance, no doubt, because most subscribers do not trouble themselves about the complaint of the candidate they vote for; but it does occasionally happen that a medical man is asked to advise upon the relative disabilities attaching to various diseases.

There are further instances of unsatisfactory diagnosis on the list. "Internal trouble" appears two or three times; not, by the way, from a false delicacy, for "fibrous tumours" are specified in another case. "Debility after surgical operation" may be a euphemism for something more tangible, especially as the candidate is in her sixth year of application; but it is ambiguous and therefore objectionable. Graves's disease as a qualification for an incurables' charity may be a slight shock both to some physicians and to some surgeons. "Creeping paralysis" is a curious phrase in a list presumably derived from medical certificates, and "nervous debility" is equally vague and meaningless. Hæmophilia, myxœdema, and anæmia with enlarged spleen are some of the more uncommon and interesting diagnoses put forward. Doubtless the investigations of the society's officers exclude all except really urgent and deserving cases; but there is room for improvement in the system of setting forth the diagnosis and in the information thereby supplied to the electors.

I am, Sir, yours faithfully,

Jan. 17th, 1914. M.D. CANTAB.

THE NATIONAL INSURANCE ACT.

PENALTIES FOR ARREARS OF CONTRIBUTIONS.

AT a joint meeting of the Insurance Advisory Committees for England, Scotland, Wales, and Ireland draft regulations were considered fixing penalties for those falling into arrears with their contributions. The scheme proposed by the Commissioners was submitted by their actuary, Mr. A. W. Watson, and was unanimously approved. At the end of each contribution year—i.e., in June—each member's net arrears, if any, are to be ascertained, certain credit allowances being made, and he is to have the opportunity of paying them off before Oct. 1st. If on that date he is still behindhand the arrears then found will be his "penalty arrears" for the benefit year beginning Nov. 1st, and reductions of his benefit will follow upon a scale depending upon the number of payments which he has failed to make, and having as its extreme penalty the suspension of all benefits for one year. This is to take place when the penalty arrears exceed 26.

THE INSURANCE MEDICAL SERVICE IN LONDON.

It was noted at the meeting of the London Insurance Committee on Jan. 22nd that in the case of practitioners who have accepted service on the panel for a limited number of persons the clause will be omitted from the agreements which states that doctors will treat persons who have been assigned to them by the committee. It was decided to issue a circular letter to the medical profession emphasising this point, Dr. H. H. Mills (chairman of the Medical Benefit Subcommittee) remarking that a fear of having patients assigned to them had prevented many doctors from coming on the panel. There were about 1000 doctors whose practices were amongst the insured classes who had so far remained outside the Act, and it would be advantageous if a proportion of them could be attracted to the panel. On a motion by Dr. Mills, seconded by Dr. B. A. Richmond, the Medical Benefit Subcommittee was instructed to report as to the sufficiency of the arrangements for medical benefit in the various boroughs of London. Allusion was made to the criticisms of the panel service made by Sir John Collie, and noted in the last issue of THE LANCET (p. 280). Mr. F. Coysh (chairman of the General Purposes Subcommittee) observed that too much general abuse of the panel system had been indulged in upon the committee. The time had come for practical suggestions for its improvement. Some criticism was also passed upon waiting-room and lavatory accommodation at surgeries in East London. The committee passed a further resolution instructing a subcommittee to report as to the adoption of a scheme for the nursing of insured persons.

INSTITUTIONAL TREATMENT OF TUBERCULOSIS IN LONDON.

The cost of institutional treatment of tuberculosis in the metropolis appears, from a report presented to the London Insurance Committee on Jan. 22nd, to have been considerably increased by the decision of the London County Council to rely chiefly upon such temporary accommodation as the Metropolitan Asylums Board could provide. The rate per head works out at 40s. 2½d., against the more usual 30s elsewhere. Restricted accommodation prevents the reception of a sufficient number of cases to effect more economical working. The Insurance Committee, whilst fully appreciating the assistance of the Metropolitan Asylums Board (but for whose readiness in emergency institutional treatment would be almost a dead letter in London), has pointed out to the London County Council the unsatisfactory and expensive nature of the present temporary arrangements, and has urged the importance of securing permanent accommodation at an early date. At the same meeting of the Insurance Committee a resolution was passed expressing regret that the County Council had let slip the opportunity of acquiring for tuberculosis treatment the Mount Vernon Hospital, Hampstead, which has now been purchased by the Medical Research Committee formed under the Insurance Act. Mr. D. E. Warburg, a prominent member of the County Council, in defending the inaction of that body, made the announcement that in regard to the treatment of tuberculosis the Council adopts the same attitude as in the case of medical treatment of school children—namely, of dependence upon voluntary organisations.

ASSOCIATION OF INSURANCE COMMITTEES IN WALES.

A conference of representatives of Insurance Committees in Wales and Monmouthshire was held recently at Shrewsbury for the purpose of forming an association of the Welsh Committees. Speeches expressing satisfaction at the working of the Act were made, and the following statements with regard to its operation were made among others. Weekly payments in respect of benefits amounted to £7500; £6000 were spent weekly on medical benefit and £1700 on maternity benefit. There were 966 medical men and 668 chemists on the panels. £8000 had been received for mileage allowance. Persons living more than three miles from any medical man had been noted, and it was reasonable that account should be taken of the nature of the country to be traversed. As to sanatorium benefit, there had been but three institutions dealing with tuberculosis in Wales in 1911, but now there was a network of them, with the result that already 796 patients had received treatment in sanatoriums and 1018 in hospitals, 9241 having been treated or recommended for treatment at institutes and visiting stations.

UNALLOTTED FUNDS AT CROYDON.

The Croydon Insurance Committee has decided to allocate the fund in its hands, arising from 10,000 insured persons not having selected a medical man on the panel, in the following manner. One-half to be divided among all the practitioners on the panel in proportion to the number of patients on the list of each, the other half equally between them. The medical men in return are to undertake to treat any of the insured persons who have thus failed to make their choice and who may come to them, after which the name of any such patient is to be placed according to circumstances on the list of a medical man.

CHEMISTS' GRIEVANCES IN MANCHESTER.

It appears that the Manchester chemists are very indignant as to the way they have been dealt with since the coming into force of the National Insurance Act, which they did their best to further by cheerful and willing coöperation. There seems to have been what is called "over-prescribing" by some medical practitioners, and the drug fund does not seem to meet all the expenditure of the chemists, who have not so far received payment in full for the prescriptions made up by them. In Salford there are 109 medical practitioners and 52 chemists on the list of the Salford Committee. Up to Dec. 14th, 1913, the chemists' claims amounted to £11,194. The drug money available for the period at 2*s.* a head was £7516, which works out at a little over 66 per cent. of the amounts claimed.

TORONTO GENERAL HOSPITAL.—The Private Patients' Pavilion of the Toronto General Hospital was opened on Jan. 6th by his honour Sir John Gibson, the Lieutenant-Governor of Ontario. This marks the completion of the Toronto General Hospital, which has been erected at a cost of £700,000. The out-patients' pavilion, which has been luxuriously furnished, cost £71,800 to construct and £10,000 to equip. The charges will range from about £3 3*s.* to £20 a week. The foundation-stone of the new hospital was laid on April 11th, 1911, by Earl Grey.

Medical News.

UNIVERSITY OF OXFORD.—The following medical degrees have been conferred :—

B.M.—C. W. Wheeler-Bennett, Christ Church; and R. S. A. Heathcote and W. W. Waller, New College.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred :—

M.D.—A. J. Clark, King's; and A. C. D. Firth, Trinity.

M.B. and B.C.—F. S. Tinker, Pembroke; and D. S. Bryan-Brown, Downing.

B.C.—J. Deighton, Trinity; A. G. G. Thompson, Pembroke; W. Boys-Stones, Caius; and J. Brewer, Emmanuel.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated :—

Surgery.—E. M. D. N. Baker (Sections I. and II.), Brussels; J. C Gillies (Sections I. and II.), Leeds; T. H. W. Idris (Sections I. and II.), University College Hospital; and S. de Moor (Section II.), D. Schonken (Section II.), and J. D. Schonken (Section II.), Amsterdam.

Medicine.—C. Bluett (Section I.), London Hospital; E. S. Dufty (Sections I. and II.), Sheffield; J. C. Gillies (Sections I. and II.), Leeds; G. B. Holroyde (Sections I. and II.), London Hospital; S. de Moor (Sections I. and II.), Amsterdam; J. A. Prendergast (Sections I. and II.), Leeds; E. Renouf (Sections I. and II.), Royal Free Hospital; J. D. Schonken (Section I.), Amsterdam; and J. A. Watson (Sections I. and II.), London Hospital.

Forensic Medicine.—E. M. D. N. Baker, Brussels; E S. Dufty, Sheffield; J. C. Gillies, Leeds; S. de Moor, Amsterdam; J. A. Prendergast, Leeds; and E. Renouf, Royal Free Hospital.

Midwifery.—E S. Dufty, Sheffield.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—E. M. D. N. Baker, T. H. W. Idris, S. de Moor, J. A. Prendergast, and D. Schonken.

LITERARY INTELLIGENCE.—Messrs. Cassell and Co., Limited, announce for immediate publication "Surgical Diseases and Injuries of the Genito-Urinary Organs," by Mr. Thomson Walker.

MEDICAL BARRISTERS.—The following medical practitioners were called to the Bar on Jan. 26th: Inner Temple, Dr. W. H. L. McCarthy; Middle Temple, Dr. Robert Scott and Mr. H. C. Waldo.

THE PROVISION FOR TUBERCULOSIS TREATMENT IN LONDON.—The Metropolitan Asylums Board on Jan. 24th devoted further consideration to the question of provision in London for treatment of tuberculosis. Pending the receipt of a complete statement from the London County Council of the accommodation required, the Local Government Board had intimated that it was very desirable that further immediate provision, if only of a temporary nature, should be made for hospital cases. To meet this request the General Purposes Committee proposed to take a lease of a receiving home for children in Milman-street, Chelsea, from the Westminster board of guardians. There would be accommodation for 50 patients, and the cost per head was estimated at 35*s.* a week. The present arrangements at the Downs Sanatorium, proceeded the committee, were quite insufficient to allow of adequate classification of patients, and hospital cases were being received as well as cases for which the institution was opened. Except for the beds which the Insurance Committee had been able to engage in private sanatoriums London had no suitable open-air sanatorium available for early cases most needing and most likely to repay institutional care and treatment, and in this respect the metropolis was far behind some of the Home Counties, which had made considerable advance towards the provision of new sanatoriums. The Asylums Board, of course, was not a free agent in this matter and could make no progress in it, even by agreement with the Insurance Committee, without the concurrence of the County Council. The present temporary and unsatisfactory arrangements came to an end in March, and would have to be extended unless a permanent and comprehensive scheme were entered into by that time. Having regard to the need for a modern and up-to-date open-air sanatorium for early cases, the General Purposes Committee considered that the Asylums Board should take the preliminary steps towards such provision without waiting for the final settlement of all the principles involved. Until the County Council had settled questions connected with the treatment of other classes such an institution as proposed would be limited to insured persons. A communication should be sent to the County Council asking it to approve, as a temporary measure, of an agreement being made with the Insurance Committee for this purpose The Board approved both these proposals of the committee.

SANITARY AFFAIRS AT ILFORD.—From the published reports of the last meeting of the Ilford district council, held on Jan 27th, it appears that the council refuses to follow the advice of the Local Government Board to reconsider the dismissal of Mr. C. F. Stovin, medical officer of health On the previous evening a meeting of the townspeople of Ilford passed a resolution asking the council to remove Mr. Stovin's suspension, and similar resolutions have been carried by the local Ratepayers' Association This matter was dealt with in THE LANCET of Jan. 17th, p. 199.

A MEDICAL VETERAN.—Mr. Philip Whitcombe, the oldest medical man in England, died on Saturday last, Jan. 24th. He qualified in 1838 as M.R.C S. Eng., later taking the diploma of the Society of Apothecaries, and was the first medical officer appointed for the Port of London at Gravesend His family have for many years been medical practitioners at Cleobury Mortimer, and he was a freeman of Salop by descent, his ancestors dating their freedom since 1423 One of his sons is Dr. P Percival Whitcombe, and another is the present Bishop of Colchester Mr. Philip Whitcombe's memory at the age of nearly 98 was unimpaired, and he did a certain amount of professional work as recently as ten years ago, and could read without glasses until the age of 92. Truly a medical veteran.

BOOKS, ETC., RECEIVED.

MASSON ET CIE, Paris

Traité de Chirurgie d Urgence Par Félix Lejars, Professeur à la Faculté de Médecine de Paris, Chirurgien de l Hôpital Saint-Antoine Septième édition, revue et augmentée. Price Fr. 30.

SAUNDERS (W. B) COMPANY, Philadelphia and London.

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Spezielle Pathologie und Therapie innerer Krankheiten In 10 Bänden Herausgegeben von Friedrich Kraus und Theodor Brugsch in Berlin. Lieferung 13-16. Price M 8 (Preis jeder [illegible]

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[illegible] Mit besonderer [illegible] Herausgegeben [illegible] r Chirurgie und [illegible] in Basel Unter [illegible] Iselin in Basel, und nach den Mitteilungen und Aufzeichnungen des verstorbenen *Dr. H Zuppinger in Zürich* Price, paper, M 9, bound, M 10

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Natural Therapy A Manual of Physiotherapeutics and Climatology By Thomas D. Luke, M.D., F R C S. Edin, Medical [illegible] and Norman Hay [illegible] Bennett, M B [illegible] Tuberculosis

Appointments.

Successful [illegible] Public Institutions [illegible] this column, are [illegible] to the Sub- [illegible] morning of each [illegible]

BERRY, FRANCES MAY DICKINSON, M D [illegible]

[illegible] has been appointed House Physician [illegible] for the Paralysed and Epileptic, [illegible] Second [illegible]

DAY [illegible] been [illegible] VII's [illegible]

[illegible] Cardiff.

FREW, ROBERT S, M D Edin, M R C.P. Lond., has been appointed Assistant Physician for Diseases of Children to King's College Hospital

GUTHRIE, DOUGLAS J, M D Edin, has been appointed Clinical Assistant in the Electro Therapeutic Department of the Edinburgh Royal Infirmary

HOPE, CHARLES W M, M D, B S Durh, F R C S. Eng, has been appointed Assistant Surgeon to the Throat Department at King's C[illegible]

[illegible] appointed Certifying [illegible] Acts for the Cromarty [illegible]

[illegible] appointed Anæsthetist to [illegible]

[illegible] M D [illegible] L R C P Lond, M R C S [illegible]

[illegible] has been appointed Radiographer to Mount Vernon Hospital for Consumption and Diseases of the Chest

TURNBULL, JANE H M D Lond, has been reappointed Anæsthetist to the Royal Free Hospital

TURNER, F DOUGLAS M B Lond, has been appointed Medical Superintendent of the Royal Eastern Counties Institution for Imbeciles and the Feeble minded, Colchester

WHITE, ARTHUR, M R C S, L R C P Lond, L D.S Eng., has been appointed Dental Surgeon to the Belgrave Hospital for Children, London

WILLIAMS, W M, L R C P, & S. Edin, L F P.S Glasg, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Pontyberem District of the county of Carmarthen.

WILLIAMSON, A J M D Aberd, D P H. Camb, has been appointed Tuberculosis Officer to the County Council of Essex

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN ROYAL HOSPITAL FOR SICK CHILDREN.—Female Superintendent

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL —House Surgeon, unmarried Salary £100 per annum, with board, washing, and lodging

BANBURY, HORTON INFIRMARY —House Surgeon Salary £100 per annum, with board and residence

BIRKENHEAD BOROUGH HOSPITAL —Senior House Surgeon and Junior House Surgeon Salary £120 and £100 per annum respectively, with board and laundry.

BIRKENHEAD UNION —Senior Resident Assistant Medical Officer. Sala[illegible]

BIRMING[illegible] Path[illegible]

BRADFO[illegible] Salar[illegible]

BRENTF[illegible] W — [illegible] £150 per annum.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and washing

CALCUTTA, CORPORATION OF —Two District Health Officers Salary Rs 500 per month each, and all allowances

Canterbury, Kent County Asylum, Chartham.—Junior Assistant (Third) Medical Officer, unmarried. Salary £220 per annum, with apartments, attendance, laundry, &c.

Cardiff, King Edward VII.'s Hospital.—House Physician and House Surgeon for six months. Salary at rate of £60 per annum each, with board, residence, and laundry.

Carmarthen, Joint Counties Asylum.—Second Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, &c.

Chester, County Asylum.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board and washing. Also Honorary Radiographer. Also Physician to Out-patients.

Colchester, Essex County Hospital.—House Physician. Salary £100 per annum, with board, residence, and washing.

Darenth Industrial Colony for the Feeble-minded, Dartford, Kent.—Third Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing

Derby County Asylum, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

Doncaster Royal Infirmary and Dispensary.—Assistant House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Dorchester, County Asylum.—Third Assistant Medical Officer. Salary £250 per annum, with board, lodging, &c.

Dorchester, Dorset County Hospital.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and laundry.

Durham County Council.—Assistant Tuberculosis Medical Officer. Salary £300 per annum.

Durham County Asylum.—Third and Fourth Assistant Medical Officers, unmarried. Salary £200 per annum, with board, lodging, and washing.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—House Physician and Assistant Casualty Officer for six months. Salary at rate of £75 per annum, with board, residence, laundry, &c.

East Suffolk, Administrative County of.—Assistant to County Medical Officer of Health. Salary £300 per annum.

East Sussex County Asylum, Hellingly.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, washing, and attendance.

French Hospital and Dispensary, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer, unmarried. Salary £60 per annum, with board and laundry.

Glasgow District Mental Hospital, Lenzie.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, attendance, and laundry.

Gloucester, Barnwood House Hospital for Mental Diseases.—Second Assistant Medical Officer. Salary £200 per annum, with board, &c.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Hampstead General and North-West London Hospital.—Assistant Casualty Officer for Out-patient Department, Bayham-street. Salary at rate of £60 per annum, with board, residence, and laundry.

Hospital for Sick Children, Great Ormond-street, W.C.—House Physician and House Surgeon, unmarried, for six months. Salary £30 each, with board and residence, &c. Also Surgeon Dentist.

Hospital for Women, Soho-square, W.—Clinical Assistants in Out-patients Department.

Huddersfield, County Borough of.—Assistant School Medical Officer. Salary £300 per annum.

Isle of Ely, Administrative County of.—Assistan Medical Officer of Health. Salary at rate of £350 per annum.

Kensington Dispensary and Children's Hospital.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Leeds General Infirmary.—Resident Aura Officer and Resident Obstetric Officer. Salary £100 and £50 per annum respectively, with board, residence, and laundry. Also House Physician for six months. Board, residence, and laundry provided.

Liverpool City Infectious Diseases Hospital.—Two Assistant Resident Medical Officers, unmarried. Salary £150 per annum, with board, washing, and lodging.

London Homœopathic Hospital, Great Ormond-street and Queen-square, Bloomsbury, W.C.—Assistant Physician. Also Assistant Surgeon for Diseases of the Eye. Also Assistant Gynæcological Physician.

London Temperance Hospital, Hampstead-road, N.W.—Resident Medical Officer. Salary £200 per annum, with board, residence, and washing. Also Assistant Resident Medical Officer for six months. Salary at rate of £40 for six months, with board, residence, and washing.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Royal Infirmary.—Accident-room House Surgeon for six months. Salary £100 per annum, with board and residence. Also Assistant Medical Officer, unmarried, to Convalescent Hospital, Cheadle, for six months. Salary at rate of £80 per annum, with board and residence.

Manchester Township Workhouse, Crumpsall.—Junior Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with rations, apartments, washing, attendance, &c.

Middlesex Hospital, W.—Director of Institute of Pathology. Salary £800 per annum.

Newcastle-upon-Tyne, Hospital for Sick Children.—Honorary Physician.

Newport (Mon.), Royal Gwent Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Nottingham, City of.—Assistant Medical Officer, unmarried, for Bagthorpe Institution and Infirmary, for six months. Salary at rate of £165 per annum, with apartments, &c.

Nottingham General Dispensary.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments, &c.

Nottingham, Ransom Sanatorium, Sherwood Forest, Mansfield.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Paddington Infirmary.—Assistant Medical Superintendent of Infirmary and Medical Officer of Workhouse. Salary at rate of £170 per annum, with board, lodging, and washing.

Perth District Asylum.—Assistant Physician. Salary £150 per annum and all found.

Plymouth, South Devon and East Cornwall Hospital.—Surgeon Dentist.

Preston, County Asylum, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

Preston Royal Infirmary.—House Physician. Salary £100 per annum, with board, residence, and laundry.

Reading, Royal Berkshire Hospital.—Second House Surgeon. Salary at rate of £80 per annum, with lodging, board, and laundry.

Rochester, St. Bartholomew's Hospital.—Resident House Physician. Salary at rate of £110 per annum, with board, residence, and laundry.

Royal Naval Medical Service.—Twenty-five Appointments.

Ryde, Royal Isle of Wight County Hospital.—Resident House Surgeon, unmarried. Salary £125 per annum.

St. Austell Union and Rural District Council and Workhouse.—Medical Officer. Salary £400 per annum for combined appointment.

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

Sheffield City Education Committee.—Assistant School Medical Officer. Salary £300 per annum.

Shrewsbury, County Asylum.—Senior Assistant Medical Officer and Second Assistant Medical Officer, unmarried. Salary £250 and £200 per annum respectively, with board, apartments, laundry, attendance, &c.

Southwark, Metropolitan Borough of.—Tuberculosis Officer. Salary £500 per annum.

Straits Settlements Government.—Three Medical Officers. Salary £300 per annum.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—House Physician. Salary £125 per annum, with board, apartments, and laundry.

Tadcaster, Goole, Riccall, and Selby Rural Districts and Selby Urban District.—Medical Officer of Health. Salary £500 per annum.

Tooting Bec Asylum, Tooting, S.W.—Third Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing.

Warrington, Lancashire County Asylum, Winwick.—Pathologist and Assistant Medical Officer, unmarried. Salary £250 per annum, with [illegible] washing.

Warwick Count [illegible] —Second Assistant Medical Offic [illegible] nnum, with board, lodging, and laundry.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

West Ham and Eastern General Hospital, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

West Ham, County Borough of, Temporary Sanatorium, Dagenham, Essex.—Resident Medical Officer, unmarried. Salary at rate of £300 per annum, with apartments, board, and washing.

Winchester, Royal Hampshire County Hospital.—House Physician. Salary £80 per annum.

York County Hospital.—House Physician for six months. Salary at rate of £100 per annum, with board, residence, &c.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Arnesby, in the county of Leicester; at Ballyward, in the county of Down; at Midleton, in the county of Cork; and at New Ross, in the county of Wexford.

*** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet.

Births, Marriages, and Deaths.

BIRTHS.

Bruce.—On Jan. 27th, at 72a, East Dulwich-grove, S.E., the wife of H. W. Bruce, M.D., F.R.C.S., of a daughter.

Dick.—On Jan. 24th, at Roxeth, The Glebe, Blackheath, the wife of F. A. Dick, M.B., B.S., of a daughter.

Higgs.—On Jan. 21st, at Palace Mansions, Kensington, the wife of Frederick W. Higgs, M.D., of a daughter.

Manby.—On Jan. 25th, at Victoria-street, Westminster, to Dr. and Mrs. E. P. Manby, a son.

MARRIAGES.

Wood—Keir.—On Jan. 20th, at St. Marylebone Presbyterian Church, W., Stanley Wood, M.R.C.S., L.R.C.P., to Mary Robb Keir, of Laurieston, Falkirk.

DEATHS.

Whitcombe.—On Jan. 24th, at Gravesend, Philip Whitcombe, M.R.C.S., in his 98th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PAPER CLOTHING.

D[illegible] ent years several newspapers [illegible] paper as a chest protector to [illegible] well as flannel but with less bulk." This is a debatable matter, but there is no doubt about the utility of paper as clothing. Paper is no new substance for clothing, and has been in use amongst the Chinese and Japanese for a long time. Japanese and Chinese ladies are accustomed to underclothing made of a tough silky paper, and European ladies have worn sets of the same material, although difference of climate and custom have precluded the spread of the fashion, and perhaps also the inferior quality of the paper supplied to [illegible] years ago during a very hot [illegible] n attempt to spread its use, [illegible] fashion also. Paper is the successor to parchment (membrana) or vellum, and those to the papyrus or paper reed. But brown paper, the first kind to be manufactured in any quantity in this country, is without doubt the best for retaining heat. A sheet of brown paper heated by the fire and folded a few times and put into a pocket near the body is like a pocket stove A sheet may be inserted between the lining and cloth of a waistcoat or thin coat. A sheet folded and cut to the shape of the feet is a useful addition in bad weather for those who wear thin boots [illegible]

AN OBJECTIONABLE SOLICITATION.

To the Editor of THE LANCET.

SIR,—A London firm of opticians has a branch in the city [illegible] mine [illegible] A few [illegible] name [illegible] ing it [illegible]

> Jan. 13th, 1914 —Dear Sir,—Upon looking through our books we find that it is now over two years since you last consulted Dr. ———. As with sight like yours it is always desirable to have the eyes periodically examined, we take the liberty of calling your attention to the matter, in case the lapse of time may have been unnoticed by you We are, Sir, yours respectfully,

Disapproving such action I called on the manager and learned that he had written about 30 letters of the kind since the beginning of the year, referring to different ophthalmic surgeons, and that the head establishment in London has been in the habit of doing this for some years past He [illegible] se [illegible] ne [illegible] en [illegible] ns [illegible]

KING'S COLLEGE HOSPITAL.

THE *Hospital Gazette* for January is devoted to an illustrated description of the new King's College Hospital at Denmark Hill. First comes a detailed architectural description, with *plans and many half-tone pictures* This is followed by a description of the engineering plant similarly illustrated, and a brief article on the drainage, water supply, and fire main. The price of the issue is 1s. 3*d*., including postage All those interested in hospital construction will find useful information in this detailed account, showing how problems have been solved and difficulties overcome in the construction of this institution

A PISTOL PIPE

EVERYBODY has read or heard stories of burglars and other intruders being frightened aw[illegible] tobacco pipe in lieu of a pis[illegible] casting of a shadow on the bli[illegible] tobacco pipe may in reality [illegible] An assistant master at an Essex school was recently [illegible] n an explosion occurred, [illegible] of the stem and entered [illegible] as hurt, otherwise the [illegible] ubject of an interesting medico-legal inquiry. The smoker's explanation is that shortly before the explosion he had been to the miniature rifle range and had practised shooting. He assumes that a live cartridge in his pocket lodged by accident in the pipe and that after he had filled the bowl and had been smoking for a few minutes the burning tobacco fired the cartridge.

"A MUSEUM OF SANITARY DEFECTS"

AT the last meeting of the Holsworthy (Devon) urban district council the medical officer of health in reporting some cottages as uninhabitable stated that the Local Government Board inspector had recently referred to them as a "museum of sanitary defects"

THE COMPLIMENTARY DINNER TO DR. ADDISON.

Dr. H. H Mills asks us to state that this dinner has been unavoidably postponed until Friday, Feb. 6th. It will be held at the Hôtel Metropole, London, at 7.30. Reception from 7 to 7 30.

◆

M. C.—The following French and German medical journals will probably suit the requirements of our correspondent.—*Paris Médical* (first issue of the month, 50 centimes; [illegible] subscription for abroad, [illegible] Messrs J. B. Baillière [illegible] *Le Progrès Médical* [illegible], 12 francs), M A. [illegible] ris. *Berliner Klinische* [illegible] subscription, 6 marks [illegible], Unter den Linden, [illegible] *sche Wochenschrift* (weekly; subscription for abroad, 8 marks, quarterly, single numbers, 80 pf), published by Georg Thieme, Antonstrasse, 15, Leipzig.

[illegible] ect in his opinion as to the effect [illegible] 3, of the Mental Deficiency Act, [illegible] Section 11, Subsection 2, depend- [illegible] control, *if invited*, wou[illegible] any doubt (the Act to be interpreted being a new one).

E. R. O—The following book will most likely suit our correspondent [illegible] ogy" By [illegible] sixth ed[illegible] and St[illegible] LANCET of [illegible]

A el H S—The five volumes of Professor Keen's "Surgery" were reviewed in THE LANCET of the following dates —Jan 11th, 1908, Feb. 1st, 1908; Sept. 26th, 1908; July 10th; 1909; and Feb 26th, 1910 A sixth supplementary volume was reviewed on Oct. 11th, 1913

COMMUNICATIONS not noticed in our present issue will receive attention in our next

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914 —

Feb 7th-11th (Glasgow) —Northern Nursing and Midwifery Conference

[illegible]

" [illegible] Surgical Society

" 15th-18th (Berlin) —Forty third Congress of the German Surgical Society

METEOROLOGICAL READINGS.

(*Taken daily at 8 30 a m. by Steward's Instruments*)

THE LANCET Office, Jan 28th, 1914.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radio in Vacuo.	Maximum Temp Shade	Min Temp	Wet Bulb.	Dry Bulb	Remarks.
Jan 22	30·15	E	...	45	38	35	34	35	Overcast
" 23	30·19	N E	...	48	38	30	30	30	Foggy
" 24	30·29	S	...	44	35	25	27	27	Foggy
" 25	30·31	S W.	...	53	45	27	33	36	Overcast
" 26	30·09	S W.	0·04	52	47	36	44	44	Raining
" 27	30·04	S W.	..	55	45	35	35	36	Cloudy
" 28	30·21	W.	0·02	52	47	36	43	43	Foggy

Th[illegible] en received:— [illegible] Bulletin of the [illegible] al of Obstetrics [illegible] iew of Reviews [illegible] orge's Hospital [illegible] del Uruguay, [illegible] Gynæcology of [illegible] w, Archives of [illegible] tology, Annales [illegible] al, Archiv für [illegible] South African Medical Record bones on dead people to ensure technical skill, we should see and hear far less than we now do of operative failures.

For the past three years I have been pursuing these two lines of investigation, mending fractures which I have made in the bones of living animals and dead men. For my present purpose I propose to show typical examples of the experimental work, so as to give the basis of the various principles in the operative treatment of fractures, referring those interested in the matter, to a recent publication[1] for a full account of my work on animals.

RESULTS OF OPERATIVE FIXATION IN ANIMALS.

Most of my animal experiments have been on cats, a few only being on rabbits, using chiefly the tibia and sometimes the femur. No attempt at external splinting was made, the animals being allowed to use the limb according to their own instinct.

On Insecure Fixation.

One of the greatest surprises that my experiments afforded me was the demonstration of what a relatively strong fixation was necessary to keep the ends of a broken bone in good apposition until they had firmly grown together. The tibia of a cat is about 1/4 inch thick, and its medullary cavity measures about 1/8 inch. If this bone is divided and then a solid bone peg inserted into the marrow cavity, although this is one-half the original thickness of the bone, it was invariably broken, and the same thing occurred in the femur, where the peg used was 5/32 inch thick. This fracture of the peg did not occur at once, the muscles remaining somewhat inert for a few days after the traumatism of the operation, but at about 5 to 7 days after, when the animal first began to use its limb. The fixation must leave the bone as strong as it was before the fracture, or there will be a risk of its speedy breakage.

The use of short plates fixed by small screws, which hold only by their bite of the dense bone, gives similar results. In such cases I have never seen a fracture of the plate, but the screws become loosened from one or both ends of the bone. (Fig. 1.) Bone is a living tissue, and as such it softens and yields before local pressure. The words of Sir William Macewen are pertinent in this connexion. He says: "A pin driven into the diaphysis, so that it is firmly caught, will in the course of a few days become loose, owing to the softening which the mechanical stimulation has set up in its periphery. The greater the pressure the greater the area of softening."[2] Obviously the same thing applies to tightly driven screws.

This fact is of great importance when we have regard to the prevalence of screwing methods in modern bone surgery. A screw which presses upon the bone will rapidly loosen its hold; the rapidity with which it becomes loose will be in direct proportion to the pressure which is exerted upon it. This loosening of screws which fix plates to bones may be minimised in two ways, either by using a large number of screws, so that the pressure upon any one is small, or by keeping the limb rigidly splinted so that muscular traction is reduced to a minimum. By either of these devices the plate may hold in place until vital union has occurred, but it is clear that such a result will be rather a happy accident than a certain effect.

The objection may be raised against my experimental methods that the plates were so short that they cannot be compared with those used in human surgery. But in the first place the question of size is a relative one. The plates were about one-fifth the length of the bone, which would be equivalent to a 3-inch plate used for the human tibia or femur. The screws were one-eighth of the thickness of the shaft, which would give screws 1/8 or 3/16 inch thick for the human leg bones. And, secondly, the inefficient principle of the method, depending as it does upon the fact that every tightly driven screw becomes loose by reason of its own pressure upon the bone, will not be altered by any increase in the size or number of screws, though by this means its ill effects may be averted.

Whatever may be the cause of the insecurity of fixation, the results are extremely bad—i.e., every possible variety of mal-union or non-union, with the frequent addition of septic complications. An operative fixation of a fracture, which gives way early, leaves the bone in a very much worse condition than it was before the operation. And this for at least four reasons: (1) that in the course of the operation the periosteum and muscular sheath of the bone have been separated from it to some extent, and therefore the preventive of displacement is lost; (2) there has been some interference with the minute vascular supply of the bone ends; (3) there is a loose foreign body left in the tissues; and (4) there is an external wound through which sepsis is very likely to enter.

On Incomplete Fixation.

There are some methods which are perfectly efficient as regards the strength of the union they produce, but they allow from the outset some slight movement between the bone ends.

The most important among these is the application of encircling wire under certain conditions. I have not studied this systematically by experiment, because the use of wire having been so largely abandoned in human surgery there did not seem to be much practical use in the research. But I have often used it in addition to such things as gelatin or decalcified pegs. These pegs are very quickly broken or absorbed, and the obliquely divided bone, left surrounded by several turns of wire in very much the same way as fractures used to be treated by "wiring." Such a union is always bad. The bones cannot slip altogether apart, but the divided ends are constantly chafing against the wire. This chafing occurs just at the very place from which the principal agent of repair, the external callus, originates. The early stage of callus consists of soft granulation tissue, and this will be destroyed by the rubbing wire just as fast as it is formed. Hence I always found in my experiments that the most certain means of preventing or delaying bone union will be by the loose encirclement of the broken ends by wire.

Another method which allows slight mobility of the fragments without displacement is that of intramedullary pegs. These can only be slipped into the bone ends if they fit rather loosely. The result on the healing of the bone in this case is the tendency to the production of some amount of callus excess. This will occur especially in the case of single bones, such as the femur or humerus, where the peg does nothing to prevent rotation of the fragments. (Fig. 2.) I have never seen any harm as regards the function of the limb arise from this callus excess either in animals or human beings, but it is not a desirable condition, especially as one has no means of controlling it. But, nevertheless, the uniformly good results, the facility of its application, and the small incision through which it can be applied, make the method one of great value, which I shall speak of again when dealing with human fractures.

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[1] British Journal of Surgery, vol. i., No. 3, p. 438.

[2] Growth of Bone, p. 21.

On Mechanically Efficient Fixation.

In the course of upwards of 100 experiments upon animals the fact which has impressed itself upon my mind more than anything else is the importance of mechanical efficiency of fixation. A broken bone is a part of an ever-moving piece of machinery, of which the surrounding muscles form an integral portion. Even if voluntary movement be abolished by external splints there is always the strong tonic contraction of the muscles to be reckoned with.

It is like mending the broken shaft of the propeller of a steamer. For a short time the engine is at rest, but the broken shaft in that time must be so fixed together as to withstand all the throbbing of the engine and the beating of the seas until the ship can reach her harbour. So with an operation on a broken bone under the anæsthetic the ever-pulling muscles are quiet, and during that moment, *if the surgeon is to do any good*, he must so fix together the bone that it can withstand any strain likely to be put upon it until natural repair has taken place. Of course, this analogy must not be pushed too far, for the bone will heal if left to nature, while the steam engine will not. But nature has her own method, and if the bone is completely broken the ends become displaced and the limb shortened, so that the muscles are thrown out of gear, and the condition of stable equilibrium or rest demanded for reparative processes is thus attained, but often at the ultimate expense of the length and form of the limb.

If a long plate be applied to a bone, and fixed by pins or screws which go through its whole thickness and are not held by a mere frictional grip, but by a relatively broad flange or nut, then there is provided a mechanically efficient union, and such union has in my experiments given uniformly good results. (Fig 3.) Generally I employed what are technically termed split or cotter pins, fixing a steel plate about one-third of the length of the bone. I have also used double plates, on opposite sides of the bone, joined through its thickness either by cotter pins or by bolts and nuts. Ten such experiments without a single failure have convinced me that the principle is correct, and it only remains to master the technical difficulties of its application.

Firm, strong bone union occurs without any callus excess, showing that absolute fixation of the fragments is no hindrance to vital repair. The animals use the leg freely from a week to a fortnight after the operation, showing that no splints and no after-treatment are necessary to secure a functionally perfect result.

The Problem of Sepsis.

From the earliest days of the operative treatment of fractures the problem of sepsis has largely dominated the question. At first it seemed to be flying in the face of Providence to convert a closed into an open fracture. And then it became a common experience, and possibly is so to the present day, for the post-operative course to be complicated by the occurrence of a septic sinus, which only closed when the metal substances used for the operation had been removed. Hence the dictum that asepsis is the first and chief necessity for fracture operations. That asepsis is the first necessity no one would deny, but asepsis during the operation by no means ensures that no septic complications shall afterwards arise.

First let me give my experimental evidence of this before I attempt to explain it. In a long series of cases where the bones were not firmly or properly fixed (short plates and screws or pegs which broke or were absorbed) there was a very high proportion of sepsis, amounting to about 60 per cent. In an equally long series where the bones were firmly united there was not a single septic case.

Now such a result in the hands of the same operator, and under the same conditions, must prove that there is something else than a fault of aseptic operating. And this other or post-operative factor is not far to seek. When the bone is united in such a way that disunion occurs, the fragments moved by the muscles cause a great outpouring of lymph, and the foreign bodies lying loose in the tissues produce the same result. This fluid quickly oozes out from the recent wound, and along the sinus thus formed, sepsis quickly finds its way from the skin to the deep tissues, where there is every encouragement for its development. Exactly the same thing happens in human surgery. A wobbly union of the fragments or loose screws, especially if these lie just beneath the skin, cause a discharge, which becomes septic. This is one or two weeks after the operation, and it is the result and not the cause of the faulty fixation.

The Question of Delayed Union.

This is another point of great importance. Is there any evidence that operative treatment *per se* causes this? Experimentally as well as clinically I think there is. Clearly one can only deal with this point in cases uncomplicated by any other untoward event. In the two methods which have given uniformly good anatomical and functional results—viz., those with the long plates and transfixing pins and the steel intramedullary pegs—I have had one instance of delayed union in each series.

I do not think it is due to mere immobility, otherwise it would occur as the rule, and not as the exception, when the bones are rigidly fixed. It is caused, I think, by an interference with the blood-supply of the bone ends by the operative manipulations. This causes the cut ends of the bone to remain inert for a time, and unable to throw out any reparative callus. But in both cases where I have observed it, the delayed union did not cause any evidence of its presence—that is to say, the function of the limb was perfect, and I have no doubt that if the animal had been kept alive long enough (both were killed at a period of six weeks after the operation) union would have eventually taken place.

We must admit, I think, that delayed union is a possible result of operative fixation, but this will leave little or no ill-effect if the fixation has been so efficient as to last for an indefinite time.

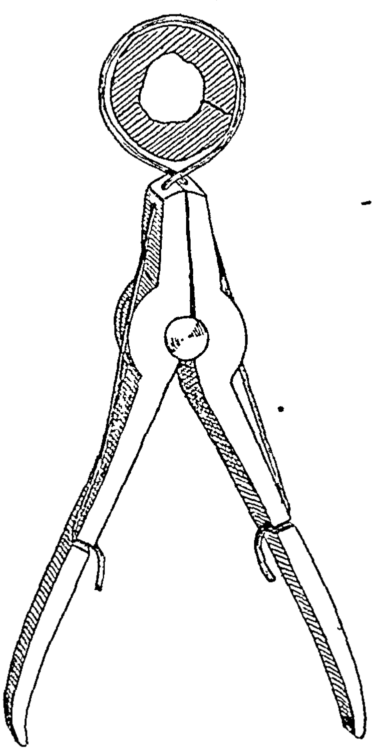
On Indirect Methods of Fixation.

It is possible to hold firmly the ends of a broken bone in good position without directly interfering with the site of a fracture. I did this by transfixing the bone as far as possible from its point of division and connecting the transfixing rods by outside metal bars. Such a method accurately and certainly carries out what many of the more precise of the

Wire made of aluminium-bronze and of plated copper is in some ways a good material, but the copper is a powerful irritant poison in the tissues, which makes me disinclined to use it in either of these forms. In experiments where bronze wire has been used there is always an area of green discolouration in the tissues all round it, caused by the action of the copper. Soft iron wire is far superior to silver. It is much stronger than either bronze or silver. For example, samples of No. 24 (standard wire gauge) of silver, aluminium-bronze, and iron wires had a breaking strain of 31 lb., 44 lb., and 50 lb. respectively, as tested in the engineering laboratory. It is, of course, very cheap and can be obtained tin-plated.

The second point of importance in using wire in bone surgery is that the fragments must be accurately restored to proper position, or at any rate to a stable equilibrium, before the wire is tightened. This is often very difficult to do. The parts are often brought into approximate position and then the wire placed as tightly as possible, or actually used as a traction material. Then when the muscles begin to act, the badly fitted bone ends become loose, and there is just that loose surrounding with wire which I have above shown to be so inimical to fracture repair.

FIG. 6.



Forceps for tightening and twisting wire when the bone suture has to be done in the depths of a wound.

Again, there is a third error commonly made in the use of wire. It is tightened by being twisted. This always makes a weak place in the wire at the junction of the last twist with the circular piece, and here the wire often breaks. It is absolutely necessary that the wire be drawn tight so as to allow no movement whatever, and when this has been done a single turn should be taken without relaxing the tension, and after the long ends have been cut off three further turns are taken in the short ends without any tension at all. This manipulation has often to be carried out in the depth of the soft tissues, and it is advisable to have some mechanical contrivance, such as the forceps I have devised, to carry it out. (Fig. 6.) The principle of these wire-tightening forceps is that the wire ends are caught in the blades, which open when the handles are pressed together; and a force, which is five times as great as the hand tension used, is applied to the tightening of the wire in exactly the right plane. Then by a single twist of the handles of the forceps the first twist is made, and the forceps can be disconnected whilst the extra-safety twists are given and the ends cut off and turned down.

If used under the conditions laid down—i.e., strong material, accurate reposition of the fragments before tightening, and firm tightening before twisting, I believe that wire will serve a purpose in a very restricted number of fractures, which cannot be equalled by any other method. The three cases in which it is especially indicated are fractures of the olecranon and patella and very oblique fractures of long bones where it is difficult to make a complete exposure without serious injury of the soft parts.

In the case of the patella it is most important that the wire should be applied in the form of a single circle which surrounds the circumference of the disc without any kinking. It is a mistake to make the suturing in a vertical plane, because the boring of the patella in this is difficult to do accurately, the wires hold chiefly in the loose cancellous tissue of the bone, and the wires become sharply kinked when tightened and the fragments tilted.

On the Usual Methods of Plating Fractures.

The common method of operative fixation of fractures is the screwing of linear steel plates upon the outer surface of the bone by means of short screws which only hold to the dense bone on one side of the marrow cavity. In spite of the fact that the method in the hands of Sir Arbuthnot Lane has achieved such success that it has become the standard of operative treatment, I would venture to point out the several ways in which it falls short of the ideal of mechanical efficiency to which I think we ought to aim.

I have already given the reasons derived from experiments for saying that the screws, however tightly they are inserted, will become loose within a short time. There is abundant evidence that this is so, too, in clinical practice. In some cases the screws come out before any union has occurred and a gross displacement, worse than that which would have taken place without any operation, results. I have seen this repeatedly, but especially in cases of the upper third of the femur. In other cases the screws hold long enough for union to occur, but nevertheless eventually become loose in the soft tissues and necessitate a further operation for their removal. The insecurity of this method of fixation is admitted by its advocates by their practice of putting up the limb after operation on splints for periods of from four to eight weeks, so that no strain shall be placed upon a lightly joined bone. Such an after-treatment subjects the limb to all the evils of immobilisation that have been so amply demonstrated by Bardenheuer, Lucas-Championnière, and many others. It risks all the disability consequent upon adherent tendons and stiff joints.

Consider for a moment the mechanical conditions of a femur plated in its middle third by a plate 4 inches long with three screws on each side of the fracture, each screw being 1/8 inch thick and holding in 1/4 inch thickness of dense bone. For the moment let us think of the bone as merely non-vital material. All the screws are in the same line, and therefore the bone, 1 inch thick and 16 inches long, has to be held by the grip of the plate upon a part of its own substance which is 1/4 inch thick, 4 inches long, and 1/8 inch wide. However strong the plate the total strength of the union cannot be greater than that of the piece of bone to which the plate is fixed. The actual width of this piece of bone is only 1/25th of the circumference of the tubular structure of the shaft, and therefore only 1/25th of the strength of the bone can be restored by the use of this method.

Then there is the fact that soon the screws become loose. This disadvantage it is sought to counteract by using many screws. But as all these are in the same line the chief stress must fall upon those nearest the fracture, as will be seen by the accompanying diagram. (Fig. 7.) When there is any force tending to bend the bone in the direction of the arrows the plate, unless very massive, will bend slightly, and all the stress will fall first upon the screws A and B and then upon C and D and so on.

FIG. 7.

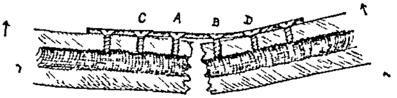


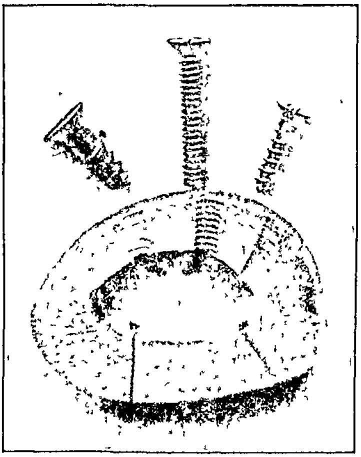
Diagram showing how a long linear plate with short screws becomes loose. However many screws are placed in the [illegible] displacing force acting in the direction of the

Therefore, for all these reasons the linear plating of fractures can only be regarded as a very temporary and insecure union of the bones, which can only succeed if (1) rapid vital union occurs, (2) splints are kept rigidly applied until union has taken place, and (3) that the part be one, such as the lower leg, which can be controlled and immobilised by splints.

One further point of some importance requires mention, and that is the very great superiority of the "metal-threaded" over the "wooden-threaded" screws. (Fig. 8.) This, I think, was first pointed out by Lambotte, of Antwerp, and has been more recently insisted upon by various American surgeons, notably by Sherman and Gerster, but nevertheless the wood screw remains in almost universal use in this country.

The wood screw is intended to bury its thread in the substance of yielding wood, but it cannot do this in a dense bone. A metal screw, on the other hand, must have a female screw thread tapped for its reception, and this is most readily done by some sort of a cutting arrangement at the end of the screw itself. By this means the screw, instead of merely holding by the frictional grip of the very edge of its thread upon the bone, has its whole thread uniformly embedded in the bone, and its grip will thereby be enormously increased in strength. The metal screw holds because it fits into a socket made for it, whilst the wood screw holds in dense bone by the sheer pressure of the edge of its thread upon the hard wall of its socket. Lambotte, by using these metal threaded screws and by not hesitating to perforate the bone, so as to hold it by both sides, has greatly improved the plating method, so as to dispense with the use of the splint in the after-treatment. But even though this firmer and longer fixation of screws improves the method, it does not do away with the objection that the whole strength of the union cannot be greater than the thickness of bone engaged by the single line of screws.

FIG. 8.



A piece of bone into which three screws have been driven. Note the slight grip of the "wood" screws as compared with that of the "metal" screw.

So far I have only referred to the dense structure of the bone shafts. If we consider the structure of the ends of the bone where there is only a very thin shell of dense tissue and all the rest is spongy substance, it is evident that such parts will afford no hold at all for screws.

(To be concluded.)

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held at Caxton House, Westminster, on Jan. 27th, Sir Francis H. Champneys being in the chair. A number of midwives were struck off the roll, the following charges amongst others having been brought forward. The patient suffering from abdominal pains and a temperature of 104° F., the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 20 (4) Not carrying [illegible] or antiseptics required by R[illegible] ance upon a patient and t[illegible] patient who was suffering from puerperal fever and not undergoing disinfection to the satisfaction of the local supervising authority as required by Rule E 5. Not wearing a clean dress of washable material when attending a patient, as required by Rule E 1.; neglecting to adopt the antiseptic precautions prescribed by Rules E 3 and 7; not keeping the register of cases, as required by Rule E 23, and medical aid having been sought the midwife neglected to send any notification thereof to the local supervising authority, as required by Rule E 21 (1).

SOME COMMON ERRORS IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE JOINTS.[1]

BY ARTHUR P. LUFF, M.D., B.SC. LOND., F.R.C.P. LOND.,
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THE *differentiation* of diseases of the joints is not always an easy matter. It certainly requires a considerable amount of experience, and it is therefore not surprising that errors in the diagnosis of diseases of the joints, and consequently in their treatment, are of fairly frequent occurrence. I propose to deal in this lecture with most of the common errors that are apt to occur, and I shall place them in the order in which they have been met with in my experience, commencing with the most frequent errors and gradually proceeding to those which are of comparatively rare occurrence. As errors in the diagnosis and treatment of surgical diseases of the joints will be dealt with in another lecture at this College, I do not propose to refer to acute synovitis, acute suppurative arthritis, tuberculous disease of joints, or syphilitic disease of joints.

1. *Differential diagnosis of rheumatoid arthritis and gout.*—The confusion of these two diseases of the joints in their chronic forms is, in my experience, one of the commonest errors. Of all the forms of chronic joint disease they are the most frequently met with, and therefore are the most apt to be confounded. The differential diagnosis of these diseases is a very important matter, because undoubtedly in the past many cases of rheumatoid arthritis have escaped recognition and have been diagnosed as gout. When it is considered that the treatment of these two diseases is quite different, the necessity of a correct diagnosis is manifest.

The following distinguishing characters show how very different the two diseases are. In the first place, rheumatoid arthritis occurs most commonly in females; gout occurs mostly in males. Rheumatoid arthritis occurs more commonly amongst the poor and ill-nourished; gout mostly among the well-to-do and well-nourished. Rheumatoid arthritis is a disease which is improved by good dieting; in the case of a gouty person a spare and plain diet is indicated. The onset of rheumatoid arthritis is insidious; that of gout sudden and obvious. As regards the commencement of the attack, gout most commonly begins in one of the feet, especially in the great toe joint; rheumatoid arthritis, although ultimately it frequently affects many joints of both hands, nearly always begins in one joint, most commonly selecting one of the joints of the thumb, either the carpo-metacarpal or metacarpo-phalangeal joint, after which it rapidly spreads to the other joints. Then as regards the appearance: in the case of rheumatoid arthritis there is no obvious swelling at first and no marked redness, while in the case of gout at its commencement there is very obvious swelling, marked redness, and a shiny condition of the skin around the affected joint.

In rheumatoid arthritis there is very little pain at first. There is some aching in the joint, but it starts in a very insidious manner. It is this insidious character of the disease which is one of its bad features, for the patients do not seek advice until the affection is fairly advanced. Gout, however, begins in the most marked manner with severe pain, the patient as a rule waking up in the early morning with excruciating pain in the great toe. Therefore if there is doubt as to whether a particular case is one of rheumatoid arthritis or of gout the patient should be questioned as to the commencement of the attack in order to ascertain whether it began with an obvious outburst of pain and with swelling and redness of the joint, or whether it began very insidiously. Then as to the joint affections; apart from what has been stated as to gout generally beginning in the foot and rheumatoid arthritis in the hand, there is one joint commonly affected in rheumatoid arthritis which is not affected in cases of gout—viz., the temporo-maxillary articulation. I have never seen a case of gout in which the temporo-maxillary joint has been affected, whereas in rheumatoid arthritis it is fairly common for that joint to be affected.

In rheumatoid arthritis there is a special liability to the affection of the joints of the cervical vertebræ, as evidenced by pain and stiffness at the back of the neck. This is a most useful distinguishing sign. Another distinction is this, and it is perhaps one of the most important distinctions, that in connexion with rheumatoid arthritis there is a remarkable symmetry in the affection of the smaller joints of the hands. In gout that symmetry is wanting. Lastly, in a case of rheumatoid arthritis sodium biurate is neither found in the joints nor in the blood, whereas in the gouty person sodium biurate exists both in the joints and in the blood.

The not infrequent mistake of diagnosing rheumatoid arthritis as gout, and the consequent placing of the patient on a restricted and spare diet, has undoubtedly led to the development of severe and incurable forms of the disease. It is essentially a disease that requires good and nutritious feeding, and I have seen many cases of rheumatoid arthritis which have gone thoroughly to the bad through the initial error of mistaking the disease for gout and treating it with a spare diet.

2. *Differential diagnosis of chronic rheumatism from rheumatoid arthritis and gout.*—I am sure that many cases which are diagnosed as chronic rheumatism of the joints are not chronic rheumatism at all; many of them are cases of rheumatoid arthritis and a fair number are cases of gout. Though much less frequent than is generally supposed, chronic rheumatic affections of the joints do occur, but they never produce that excessive permanent deformity which the other affections may. These chronic rheumatic affections of the joints are generally accompanied by the formation of fibrous nodules, by the development of extra-articular fibrous thickening, and not infrequently by the indication of valvular disease of the heart. There is generally a well-marked history of rheumatism, and the disease is identical with that described as "chronic fibrous rheumatism." It must not be considered that the subcutaneous fibrous nodules occur only in connexion with rheumatism. They are fairly frequently seen in cases of rheumatoid arthritis, and less frequently in gout, syphilis, influenza, and other diseases.

It should be carefully remembered that chronic rheumatism is not associated with the formation of bony or cartilaginous deposits in the joints. It shows little symmetry, and is usually associated with rheumatic pains shifting about from one place to another. It never affects the temporo-maxillary joints. As regards the actual diagnosis of rheumatism, it is usually fairly easy. If a patient complains of pain in the joints, which pain flies about from joint to joint and generally affects some of the muscles at the same time, and if, in connexion with these flying pains, there are indications of the presence of the rheumatic erythema—erythema nodosum—then the diagnosis of rheumatism is obvious. As a rule, the fitful way in which the joints are affected, the fairly rapid subsidence of the swellings of the joints, and the association of muscular pains make the diagnosis a simple matter. The absence of bony thickening and of bony grating distinguishes the disease from rheumatoid arthritis, and in addition the finger-joints are much less frequently affected.

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[1] Founded on a lecture delivered at the Medical Graduates' College and Polyclinic on Feb. 11th, 1914.

As an assistance in the diagnosis of a chronic articular affection there is a rough but fairly sure test which is frequently of assistance: it is treatment with salicylate of soda. If the case responds well to this treatment it is a case of rheumatism. If it does not respond to this treatment the existence of rheumatoid arthritis or gout is fairly certain, as neither of these affections responds well to salicylates.

Chronic fibrositis of the joints is most frequently met with in the knuckle and finger-joints of those engaged in hard manual labour, especially when associated with damp surroundings. Pads upon the finger-joints constitute a chronic form of localised fibrositis. They form excrescences which are almost confined to the dorsal aspects of the interphalangeal joints of the proximal row, and are only very rarely seen upon the terminal joints of the fingers. They are usually present upon the fingers of both hands, and vary in size from that of a split-pea to that of the half of a hazel-nut. Sometimes they are quite painless, but more often pain of various degrees of severity is complained of, especially when the fingers are flexed or if the lumps are knocked. Patients suffering from these pads generally seek medical advice under the apprehension that they are the precursors or accompaniments of rheumatoid arthritis, or that they are due to chronic gout. There does not, however, appear to be any connexion between these pads and either rheumatoid arthritis or gout. There is, however, an intimate connexion between these pads and Dupuytren's contraction of the palmar fascia, and it is fairly common to see the two conditions together.

3. *Differential diagnosis of acute rheumatoid arthritis and acute rheumatism.*—In its early stages acute rheumatoid arthritis may very closely simulate acute rheumatism, but it may be distinguished from it by not reacting to treatment with salicylates. The disease usually commences in one joint, commonly one of the metacarpophalangeal articulations, and then rapidly spreads to other joints. The disease does not flit from joint to joint as in cases of acute rheumatism, and the joint swellings are persistent. The swelling is at first due to peri-articular thickening rather than to effusion. Rapid muscular wasting, vaso-motor troubles, and pigmentation occur. In the acute and subacute stages the temperature is raised, but as a rule is lower than in acute rheumatism.

4. *Differential diagnosis of acute rheumatism and acute gout.*—As a rule these two diseases in their acute forms can be readily distinguished, but in cases of doubt the question can be settled by attention to the following points. The colour of the affected joints is usually quite different, being of a dusky-red or purple-red colour in acute gout, and of a pale rose pink in acute rheumatism. Acute gout as a rule only starts in one joint, whereas in acute rheumatism several joints are simultaneously affected. The pain of the affected joint in acute gout is much more severe than in acute rheumatism, especially when the joint is touched or handled. The swelling of the joint is usually much greater in acute gout than in acute rheumatism. The sweating in cases of acute gout is slight in comparison with the profuse sour-smelling perspiration of acute rheumatism.

5. *Differential diagnosis of chronic villous synovitis from arthritis and displaced cartilage.*—In my experience it is a very common error to mistake a chronic villous synovitis, usually of one or both knees, for an arthritis. Chronic villous synovitis is a purely local condition and not a manifestation of a general disease. It is, unfortunately, described in some text-books as "arthritis sicca." It usually occurs in the knee, and is characterised by crepitus or creaking on movement and by pain and tenderness on use. The crepitus during movement of the joint is frequently unpleasantly audible to the patient, and is especially caused by going up or down stairs. The capsule and the ligaments of the joint are more or less relaxed and the synovial membrane is passively congested and loose. The crepitation on movement is due to the folds of the flabby congested membrane rubbing together—in other words, it is a true creaking and not a bony grating. If further relaxation of the synovial membrane results, hernial-like projections of the synovial fringe may be produced which are apt to cause a catching or locking of the joint when it is moved. In this class of cases the fluid in the joint is generally quite normal, although, if there be great irritation, some excess of it may form. The condition is very frequently mistaken for rheumatoid arthritis, but there is no erosion of cartilage and no eburnation of the ends of the bones, consequently bony grating can never be produced in such joints.

A valuable aid to the recognition of this condition and to its differentiation from rheumatoid arthritis is the careful auscultation of the joint. The knee-joint should be slowly flexed and extended during the examination, and in this way the peculiar crackle or crepitus that is produced by the thickened and flabby synovial membrane is easily distinguished from the scrunch or grating sound that occurs in cases of rheumatoid arthritis, and which is due to abrasion or erosion of the cartilages.

In a few cases of chronic villous synovitis of the knees the hypertrophied fringes, as the result of chronic inflammation, act as foreign bodies, and their removal may be necessary to effect a cure. Many cases of so-called displaced cartilage in the knee-joint are due to the nipping of these hypertrophied and protruding fringes.

6. *Differential diagnosis of subacromial bursitis and arthritis of the shoulder-joint.*—The confusion of these two conditions is a fairly common error. In both cases the pain is complained of in, or in the vicinity of, the shoulder-joint, and in both cases a marked sound may be elicited on movement of the joint. The condition of the bursa is one of a chronic fibrositis, which may occur in any of the bursæ, but is especially apt to occur in connexion with the subacromial bursa, which is the same as the so-called subdeltoid bursa. The other bursæ which exist about the shoulder-joint are relatively

the joints from osteo-arthritis.—The arthropathy known as Charcot's joint is occasionally mistaken for an osteo-arthritis, but the association of it with locomotor ataxy, the rapid effusion, the usually rapid destruction of the cartilages and bones, and the remarkable absence of pain should prevent such an error in diagnosis.

Queen Anne-street, W.

MITRAL STENOSIS, CARDIAC THROMBOSIS, AORTIC EMBOLISM, AND GANGRENE OF BOTH LEGS.

BY H. E. SYMES-THOMPSON, M.A., M.D. CANTAB., M.R.C.P. LOND.,

PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL; ASSISTANT PHYSICIAN TO THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST.

THE following case is interesting, not only because it is unusual, but also owing to the difficulty which it presented in the diagnosis of the underlying cause. The embolus measured 1¼ inches by ½ inch, and it lodged at the bifurcation of the aorta, being too large to enter one of the common iliac arteries. The diameters of the common iliac and the common carotid arteries are ½ inch and ⅓ inch respectively; and we usually regard an embolus which plugs one of these vessels, causing unilateral gangrene or sudden death, as a large embolus. The embolus in this case was therefore of exceptional dimensions. The diagnosis of mitral stenosis could not be established during life. There was some irregularity of the heart, but nothing else on which to found such a diagnosis could be made out; and there was no history of rheumatism. The thickening and tortuosity of the arteries suggested the possibility of syphilitic endarteritis, but the Wassermann test gave a negative result. The absence of sugar from the urine excluded diabetic gangrene.

The patient, a man aged 47, was admitted to the Great Northern Central Hospital on Feb. 5th, 1913, complaining of discoloration of the legs accompanied by pain and loss of power. The illness had begun 14 days previously, when pain came on suddenly in the legs. The pain was like pins and needles, was worse at night, and was marked by exacerbations and remissions. For five days he had ceased to be able to move his legs, and for one day he had noticed that his legs were blue. There had been a slight cough with a little expectoration since the illness began, and some shortness of breath for five days. Neither the past personal history nor the family history presented anything noteworthy. He had not been abroad; there was no history of rheumatism or syphilis.

On admission the patient was poorly nourished and markedly anæmic. His mouth and fingers were twitching. The distal parts of both lower limbs were purple in colour, cold, painful, and tender. Demarcation lines divided the purple from the normal skin four inches above the knee-joint on the right side, and two inches below the knee-joint on the left. Immediately above the demarcation lines the limbs were hot, œdematous, and acutely tender. No pulsation could be felt in the femoral or popliteal arteries. Pain and thermal sensation were absent over the affected areas, and sensation to touch was impaired. The apex beat of the heart was in the fifth left interspace four inches from the middle line. The heart's action was rapid, and some irregularity was present. The sounds lacked tone, but no murmurs were heard. The cardiac dulness was difficult to determine owing to the presence of emphysema in marked degree. Many of the heart-beats did not reach the wrist, and the pulse was irregular in force and rhythm. The arteries were thick and tortuous, and the blood pressure was equal to the weight of 130 mm. of mercury. The percussion note of the chest was hyperresonant, and the lungs obliterated the superficial cardiac dulness. The expansion of the chest and the respiratory murmur were poor. The abdomen was normal. The urine was acid, with a specific gravity of 1020. There was no sugar or blood, but a cloud of albumin appeared on boiling. The nervous system presented no abnormality except in the gangrenous areas. The temperature was 100° F., the pulse-rate was 130 per minute, and the respirations 36.

On Feb. 7th blebs appeared on the legs, and there was a papule of pus near the line of demarcation on the right side. The albumin had disappeared from the urine. On the 10th the blebs were more numerous. Pink patches had appeared on the legs, which contrasted with the purple colour of the rest of the gangrenous areas, at the upper limits of which numerous petechiæ had become visible. Some extension of the gangrene was also noticed. The general condition had deteriorated and the pulse had become very irregular, though the pain was less acute. On the 14th there was a rigor. By this time many of the blebs had broken down, and their surfaces had become raw and offensive. Some blood was removed from a vein for a blood culture and the Wassermann test was made, both investigations giving a negative result. After this there was a rigor each day, and the patient went downhill rapidly. The heart became more and more feeble, and death took place on the 17th. It proved necessary throughout to give morphia every few hours to alleviate the pain. The temperature was irregular, varying as a rule between 100° and 104°, and occasionally dropping to the normal line.

The post-mortem examination was made by Mr. E. H. Shaw on Feb. 18th. The following points are extracted from his report. The left foot and leg up to the knee were black and moist, the toes being dry. The right lower extremity up to the thigh was in a similar condition. A small hæmorrhagic infarct was found under the pleura at the right pulmonary base. The heart was enlarged. The left auricle was much dilated, and the wall was thickened. The endocardium was white. The left auricular appendix was filled by white, friable, laminated clot, which projected into the auricle. The clot was lightly adherent to the wall. The mitral valve was stenosed by adherence of both cusps at their margins to form a narrow orifice about 1¼ inches long. The segments were thick and fibrous. The chordæ tendineæ were a little thickened, as were also the aortic segments. The other valves were natural. The aorta showed some small patches of atheroma. Lightly attached to the wall of the abdominal aorta at the point of bifurcation was a partly decolourised, laminated clot with dimensions of about 1¼ inches by ½ inch. From this a cylindrical smooth red clot extended into the right common iliac artery for about two inches. There were also some small loose pieces of red clot lightly adherent to the vessel wall along the remainder of the common iliac artery, extending also into the femoral artery. The wall was deeply blood-stained and thickened. The connective tissue outside the wall was also thickened. The left common iliac artery was partly obstructed at its origin, and there were loose pieces of blood-clot extending downwards and into the femoral, the artery being deeply blood-stained. The large branches of the right iliac were plugged with clot. The vena cava was deeply blood-stained, and contained a few small, soft, red pieces of clot, and the iliac veins were in a similar condition. Near the origin of the femoral vein each vein was filled with red clot, the clot extending along and filling the femoral vein. The clot was soft and lightly adherent to the wall. The tributaries of both veins contained similar clots. The tissues of the thighs contained much lymph. From the heart blood a growth of bacillus coli communis was obtained.

For the clinical notes of the case I am indebted to Mr. E. Smeed, house physician.

Cavendish square, W.

A NEW METHOD OF TREATING CHRONIC COLI-CYSTITIS AND OTHER BACTERIAL INFECTIONS.

BY CHARLES RUSS, M.B. LOND., M.R.C.S. ENG., L.R.C.P. LOND.

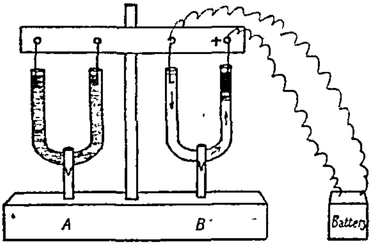
IN June, 1909, I read before the Royal Society a paper on the Electrical Reactions of Certain Bacteria and an Application in the Detection of Tubercle Bacillus in Urine by Means of an Electric Current.[1] In this paper I showed that certain bacteria suspended in an electrolyte through which a current passes aggregate at one or other of the electrodes during the passage of the current, and that the aggregation varies with the nature of the electrolyte and is probably due to affinity between the products of electrolysis and of the bacteria. I subsequently found that electrification of the bacteria in certain solutions kills them. Demonstrations were given at meetings of the Pathological Section of the Royal Society of Medicine in January, 1910; British Medical Association in July, 1910; and at the International Hygiene Exhibition, Dresden, 1911.

Since these laboratory observations I have during the last few years devoted considerable time to their application for the relief or cure of certain suppurative human diseases.

Preliminary considerations.—Since nearly all pathogenic bacteria move to the positive pole during electrolysis in sodium chloride solution (Fig. 1), I thought they might be drawn out of ulcers and infected mucous membranes, &c., if a column of sodium chloride were superimposed on the diseased area and a current passed in the appropriate direction. If the positive pole were submerged in such a column of saline and the organisms drawn to it by the current, then, as the tissues became free from the bacteria, recovery would ensue. Incidentally also the bacteria would be killed during the process.

The first cases treated (varicose ulcers, septic fingers).—In 1911 I commenced this study by applying the above-mentioned ideas to chronic varicose ulcers of the legs. These are lesions which can be seen during treatment and are accessible and easily measured. By the courtesy of Dr. C. T. Parsons I treated a short series of such cases at the Fulham Infirmary. The majority were healed. The largest was about 5 by 3 inches, and the smallest about 1 inch square. The method devised was as follows. A varicose ulcer was encircled by a special glass vessel larger than its area and fixed in a watertight manner to the surrounding healthy skin by plasticine. The vessel was nearly filled with saline solution, and furnished with a submerged anode of platinum foil. An electric current was passed from the calf resting on a wet cathode pad (bolster) through the limb, traversing the ulcer to reach the overhanging anode. In this way the bacteria in the ulcer were expected to migrate to the anode, and if they left the ulcer or were killed it would be free to heal. Many experiments as to the amount and duration of current passed were made until favourable results were usually obtained. In the intervals between treatment only a cold compress of saline was applied to the ulcer. These ulcers were of years', months', or weeks' duration, and were systematically measured as to their greatest diameters before each treatment. In the first case, to estimate the number of bacteria withdrawn by the process, a control was undertaken by planting a sample of the saline (stirred over the ulcer) before polarisation, and counting the colonies which developed from 1 c.c. and ½ c.c. on agar plates, and also after polarisation for 10 minutes. The result—namely, no growth in the second set of plates—was a sharp reminder of the importance of the bactericidal effect of the treatment, in addition to any effect of drawing organisms out of the ulcers.

FIG. 1.



Bacterial suspension, A, before passing current; B, after passing current.

In view of a friendly challenge that my electrical attentions were doing no more than rest in bed would produce, one of the patients was kept in bed and treated by ointment for 14 days. The measurements before and after this test showed enlargement of the ulcer, but it diminished as soon as I began again. Of course, the varicose factor, unless surgically removed, almost ensures a relapse, but I was satisfied after six months' attention to these ulcers that this process needed much more study.

Septic fingers.—Mr. C. R. C. Lyster last year treated several cases of acute and severe suppuration of the fingers (casualty hands) at the Middlesex Hospital by this principle of fluid electrolysis, with very satisfactory results.

Coli-cystitis.

After reading the original paper a surgeon asked me whether the bacilli might not be withdrawn from the bladder in coli-cystitis. I presently sought an opportunity to test its value in that disorder. After analysis of several thousand urines of acute and chronic cystitis one is impressed with the almost constant prevalence of colon bacilli as the invaders of the bladder. These bacilli, whether the true bacillus coli communis or one of its relations within the colon group, are small bacilli whose access to the bladder has been the subject of much speculation. Seldom, perhaps, is their route proved. It may be that their spontaneous motility supplies sufficient motive power for them to traverse the recto-vesical partition if some other abnormal factor be also present. However, the condition is well known clinically and the essential pathological features are the presence of pus and bacilli in the vesical urine in cystitis (Fig. 2) and of bacilli only in bacilluria.

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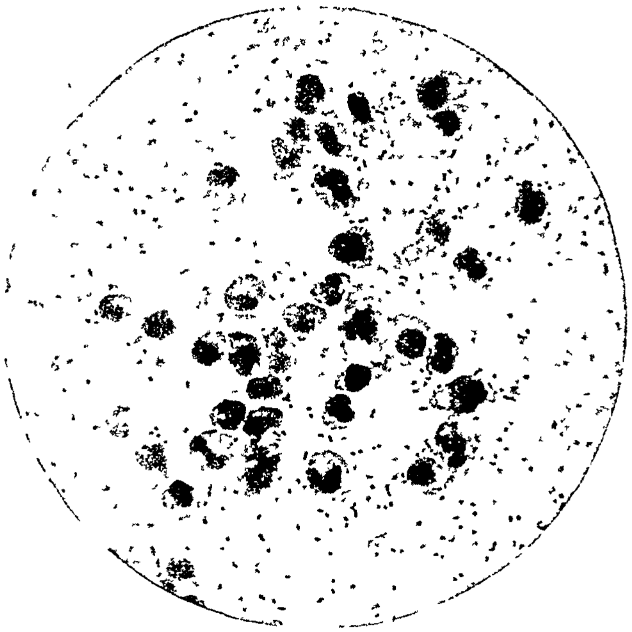
[1] Proceedings of the Royal Society, 1909, B, vol. lxxxi., p. 314; THE LANCET, July 3rd, 1909, p. 2.

FIG. 2.



The bacilli and pus cells in the urine of a typical case of coli cystitis before electrical treatment. 1/6th objective. Gram's stain.

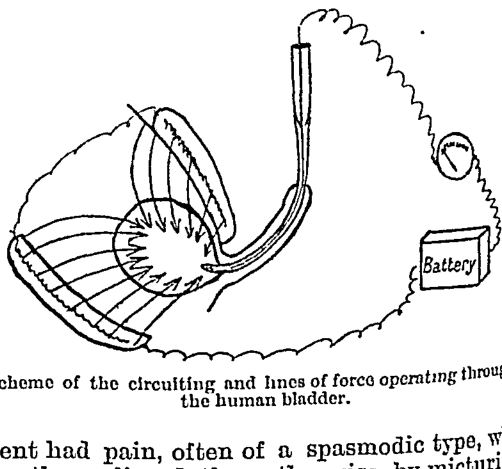
The cure of the condition involves the extermination of these organisms, and this is a problem of some magnitude. The bacilli multiply at a rapid rate in the urine and bladder mucosa, and although the majority are expelled by urinary voidance the residual bacilli soon reproduce and the cycle of events proceeds. Recovery in a chronic case is characterised by diminution and disappearance of the pus, and later the same happens to the bacilli. Coincident with these changes there is a loss of the morbid symptoms clinically. The remedies in ordinary use are intended to act in various ways. By the use of drugs of the urotropine class we endeavour to kill the bacilli by producing a germicide in the urine—a state inimical to their multiplication. Lavage cleans the bladder, but needs repetition to deal with the new bacillary population arising from the survivors of the last wash-out. Injections of germicides need to be weak enough to spare the mucosa from injury whilst killing the organisms. Vaccines acting *viâ* the blood stream appear to alter the absorption of the coli toxin and induce a better feeling in the patient; and a certain number of recoveries have followed their use. All these methods are notoriously unsatisfactory.

As a laboratory experiment I had so often seen the migration of the colon bacilli to the anode in salt solution (Fig. 1) that it seemed not unreasonable that the same movement and the lethal effect might be induced if similar conditions were arranged in the human bladder. Removal of the organisms dead or alive faster than they multiply is a line of treatment that must cure the disorder, and a practical test would show whether this could be done.

The modus operandi.—After voidance of any urine the patient reclined on a couch, and a broad abdominal belt of layers of lint was passed round the lower part of the trunk. This belt, which carried a core of metallic gauze, was wrung out with warm salt solution before application. Next a rubber catheter, furnished with several perforations round its eye, was passed into the bladder. The free end of this catheter was connected to 8 inches of glass tubing, which in turn was joined by a short length of rubber tubing to a glass funnel—everything being sterilised. A few ounces of the salt solution (2 per cent.) were next passed into the bladder, and the glass tubing, after disconnexion from the funnel, was clamped a little above the level of the pelvis. A platinum wire 6 to 8 inches long was next passed down the catheter to within 2 inches of its eye. This wire was connected to the positive and the core of the belt to the negative poles of the electric battery. The fluid in the bladder rose and fell in the glass tubing with the respiratory movements, and its movement served as an indicator that the catheter eye was within the vesical cavity. A constant current was now gradually turned on to a magnitude of 3 to 5 milliampères, and was allowed to run for 20 or 30 minutes. The scheme of the system is shown in Fig. 3. The patient feels no discomfort during the process.

Dr. A. Allport kindly provided me with my first case of chronic coli-cystitis—a patient whom, however, he also suspected of a vesical stone. The patient had pain, often of a spasmodic type, which was rather relieved than otherwise by micturition. Stone being suspected, the bladder was sounded, but under great difficulty owing to the extreme pain and vesical tenesmus which the sound produced. No stone was detected, and cystoscopy was impossible except under an anæsthetic. The patient, who was 63 years of age and weighed about 16 st., had suffered from cystitis for four years. His condition was one of one- or two-hourly frequency by day and two- to three-hourly at night. An examination of his urine showed no tubercle bacilli. He passed no more than 3 ounces of urine at a time, which contained 2 drachms of pus and was teeming with colon bacilli. It was acid in reaction, and was also examined chemically and by culture. I treated this patient on the above lines daily or on

FIG. 3.



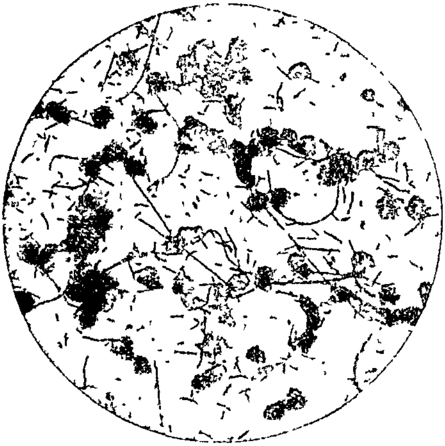
Scheme of the circuiting and lines of force operating through the human bladder.

alternate days for about three months with varying strengths of electric current, duration of treatment, and various reagents, but although his condition improved the progress was not so great as I anticipated. The treatment was suspended for three months, after which the patient was very anxious to resume the electrolysis, and I decided to try another reagent—namely, iodic acid. This substance has certain excellent electrochemical qualities, and I used it eventually in a strength of 1 in 1500, the wire now being the cathode, and with very good results. After a few weeks his pus had diminished to ⅓ drachm in 5½ ounces of urine, but his pain persisted, and while temporarily using a more rigid catheter I felt a grating sensation, suggesting a calculus. By this time his bladder was so much more tolerant that Dr. Allport had no difficulty in passing a metal sound, when a stone was detected, which was presently crushed in hospital. His urine still contained a trace of pus and numerous transformed bacilli, but with no electric treatment he has not been out of bed for urinary voidance for three months, and holds urine three hours and sometimes longer by day. He is actively carrying on his occupation.

I next treated a short series of chronic cases, chiefly men over 70 years of age, and having about an ounce of residual urine. They were worried by night and day frequency, and had had chronic cystitis for several years. After a few weeks' treatment by iodic acid electrolysis they were all improved. Their pus was reduced, and their frequency quickly improved by a minimum of 33 per cent. on their average number of voidances for the 24 hours—i.e., 12 frequencies became 8 per 24 hours. The frequencies in these cases had to be recorded carefully by day and night before and during treatment, as the patient's impressions are liable to be vague. These patients had not the additional assistance of vaccines, drugs, or other medication. The important question of relapse is one that I am unable at present to answer, but provided the bacilli have been transformed (Fig. 4) there is apparently no relapse.

An effect upon the bacilli.—I have mentioned the germicidal effect anticipated, and also that of drawing the organisms electrically from the affected part. The former was proved on more than one occasion by finding cultivations sterile, which I made from the vesical fluid (iodic acid and urine) at the end of a treatment. This lethal effect was, however, not invariably produced, and while these patients were improving as to their frequency and their pus production there still were bacilluria and some pus present. I was not satisfied that the diminution of these factors was large enough to account for the clinical improvement. However, microscopic examination of the urine showed a new and, I believe, important feature. I refer to the changed appearance of the bacilli, which is manifest in Fig. 4. This is a microphotograph of one of the urines. The average size of a colon bacillus is that of almost the smallest of the bacilli in the field. In cases of chronic cystitis which are slowly recovering from the disorder by other agencies than electricity one sometimes sees a lengthening of the bacilli in their urine, but it is only a fraction of that in Fig. 4. The attenuation of the bacilli has been brought about by the vesical polarisation which I administered. Now if this visible attenuation of form has been accompanied by a reduced bacillary virulence, we have an explanation of the benefit induced in the patient. Reduced bacterial virulence must be associated with less inflammation, which in cystitis is evidenced by less pus formation. Reduced inflammation of the bladder means more tolerance of distension—i.e., less frequency. There is also a change in the staining reaction of the bacilli to Gram's stain. Within the same bacillus there is often a Gram negative and positive effect. If this is the true interpretation of the changes in the bacilli, then the factors in the process which most rapidly produce this attenuation must be precisely determined and brought into action for the benefit of the patient. I have also produced a moderate lengthening of the true bacillus coli communis by electrolysis in U tubes in the incubator. I hope to make more extensive observations in the future of this effect, which was quite unanticipated.

FIG. 4.



Showing a drop of urine containing pus cells and the transformed colon bacilli. 1/6th objective. Gram's stain.

Gonorrhœa.—I also took the opportunity of trying the process in two cases. I failed in one of a year's duration, though the volume of discharge was reduced. In the other of three weeks' duration I arrested the discharge after the fifth dose of current. The instruments and technique were different and so was the fluid used, but I have confidence in the developments of the process in gonorrhœa.

In conclusion, I acknowledge the assistance of a grant in aid of the expense of this research by the Royal Society. I am also indebted to Mr. E. H. Fenwick, Mr. Lyster, Dr. Allport, Dr. Parsons, and Dr. Wall for their interest and assistance in providing cases.

Beaumont-street, W.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general meeting of this association will be held, by the courtesy of Dr. T. Stewart Adair, at Storthes Hall Asylum, near Huddersfield, at 3 P.M. on Thursday next, Feb. 19th, under the presidency of Dr. James Chambers. The asylum will be open for inspection from 11 A.M. that day, and Dr. Adair kindly invites members to luncheon at 1.30 P.M. A paper on the Clinical Significance of Katatonic Symptoms will be read by Dr. Henry Devine, and tea will be provided after the meeting. The quarterly dinner will be held that evening at the George Hotel, Huddersfield, at 6.45 for 7 o'clock.

ERRORS OF REFRACTION IN SCHOOL CHILDREN.[1]

BY ARCHIBALD STANLEY PERCIVAL, M.A., M.B. CAMB.,
SENIOR SURGEON TO THE NEWCASTLE EYE INFIRMARY.

THIS subject has been allotted to me by the authorities, and I may say in passing that it is not the one I should have chosen myself; for obviously there are some of you who only wish to know the best and shortest way to diagnose an error of refraction, while others wish to correct that error themselves. It will, I fear, call for much forbearance from one section or the other to listen to all this paper.

Much time will be saved by proceeding in an orderly manner. Now children may be divided into two classes—those who do and those who do not know their letters; these illiterate children we will denote by the symbol Il. Insist on having a report from the school teachers of all the children who seem to have a difficulty in seeing (D), headache troubles (H), &c., and a further note if they are illiterate (Il). Make a list in a vertical column of all the children you are going to examine, with the notes of the reports you have received. (See Table.)

We will suppose that Arthur Roberts is reported to have defective sight and to be illiterate; Richard Doe also illiterate; Thomas Anderson is said to suffer from headaches, and so on with the others.

1. Examine the external appearance of each child's eyes with the large lens for focal illumination in one hand, and a spring watchmaker's glass in your eye so as to see whether any corneal trouble is present—ulcers, nebulæ, &c.—or whether there is any haziness of the pupil that may be due to lamellar cataract. Note at once on the paper opposite the child's name anything that you notice —e.g., C.C.S. for convergent concomitant strabismus, or the ordinary internal squint, D.S. for divergent squint, Neb. for nebula, &c. Now we suppose that we have found that Arthur Roberts has a nebula in each eye, while Richard Doe has a squint and also a nebula in his right eye. Then our table will begin in this way:—

Name.		Report.		Observations.
A. R.	... ...	Il.	......	R. Neb. L. Neb.
R. D.	... ...	Il.	......	C.C.S. R. Neb. L.

Now as in the first case both the corneæ are nebulous it is impossible to discover an error of refraction, so do not waste time, but send the child to his medical man for appropriate treatment for the nebula—thiosinamine or Pagenstecher's ointment or dionine, or whatever the child's doctor thinks is most fitting. This is, of course, not a case of refraction, and we must stick to our subject if we are to get through with it.

In the second case we at once put in homatropine into the clear eye—i.e., the left eye. In three-quarters of an hour or so the homatropine will have dilated the pupil and paralysed the accommodation so that the retinoscopy result can be absolutely relied upon. Suppose that by retinoscopy we infer that + 5 D. should be his correction for distance when under homatropine, we take off 0·5 D. for the homatropine, and order + 4·5 D. for each eye to be worn constantly. As before, we send the child to his medical man for treatment for his nebula. We cannot find what the correction is for his nebulous eye, and in the meantime it is best to order the same correction for it as the clear eye. When the nebula has cleared up this eye should be tested by retinoscopy under homatropine and the proper correction ordered for it. It is, however, most important in any case of converging squint to order convex glasses, if required, as early as possible, as by this means the squint is far more easily and speedily cured.

The literate children, those who can read, must not be treated in this summary way; they must be tested with test-types.

2. After noting their defects as discovered by the previous external examination, ask each child in the absence of those who have not yet been examined to read the last line of the test-types, which are placed at a distance of 6 metres or 20 feet, with each eye separately. If they can read *this* line satisfactorily with each eye note R. 6/6, L. 6/6 opposite their name, and they may be passed without further examination provided that you have heard no complaint of eyestrain or difficulty in seeing.

Perhaps I may be allowed to say a word about these visual tests. Here are a set of test-types. The theory of them is perfectly simple. The large letter at the top subtends an angle of 5′ at a distance of 60 metres—i.e., about 66 yards; the letters of the second line subtend the same angle at a distance of 36 metres. The letters of the fourth line subtend the same angle of 5′ at 18 metres, those of the sixth line at 9 metres, and those of the seventh line at 6 metres. Now standard vision may be regarded as that vision which will make it possible for a patient to recognise letters which subtend an angle of 5′.[2] If, then, Arthur Brown, say, with his right eye can read the seventh line at 6 metres, his right eye has standard vision, and we denote the result of our examination by 6/6. The numerator always means the distance at which the patient stands during the test, while the denominator always means the greatest distance at which a person of standard vision could stand, and still be able to read the specified line.

We will suppose that Thomas Anderson is unable to read the bottom line, then find out which line he can read with each eye separately. Suppose that with his right eye he can just read the sixth line, which he should have read at a distance of 9 metres, whereas he is really only 6 metres from the test-type. We note this result by the symbol 6/9—i.e., 6/9 of standard vision. Never simplify such fractions; do not, for instance, put down 2/3, the fraction 6/9 tells us directly that it is the result of an examination at 6 metres distance. Also never speak of normal vision; *standard* vision is not normal or average vision any more than 5 ft. 10 in. is a normal height, although it may be the standard height for certain occupations. Much confusion is occasioned in the law courts by speaking of 6/6 as normal vision, instead of standard vision.

But we must return to Thomas Anderson. Let us suppose that with his left eye Thomas Anderson can only read the second line; we note then L. 6/36, for at a distance of 6 metres he can only read what he ought to be able to read at a distance of 36 metres.

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[1] Being a paper read on Jan. 23rd, 1914, at one of the scientific meetings of the British Medical Association (Newcastle-upon-Tyne Division).

[2] Some letters are much easier to discern than others. In Snellen's test-types [illegible] subtends an angle of 5′, while the [illegible] G from C, subtends an angle of 1′ [illegible] visible.

3. Now repeat the test with the pinhole diaphragm. This is *the diagnostic test* of an error of refraction, though it is never mentioned in the ordinary books. I will pass round some lenses and pinholes for you to see for yourselves what a delightfully simple test it is. Put up one of the lenses before your eye so that some if not all of these test-type letters are blurred. Then hold the pinhole in front of the lens close to your eye, and at once you will be able to see much more clearly. This increase of definition is, of course, due to the fact that the pinhole diminishes the size of the circles of confusion on your retina, so that each point of the object is represented by a tiny circle on your retina, instead of being a big circle of confusion.

Hence whenever the visual acuteness of a person is increased by looking through a pinhole, it is absolutely certain that his defective sight is due in part, if not entirely, to an error of refraction. If the defective sight is not improved, or if the vision becomes less, it is certain that there is some other defect in the eye. It may be opacities in the media, choroiditis, choroidal atrophy, or something wrong with the optic nerve or with the brain, as in amblyopia.

Suppose that we find that our Thomas Anderson with the pinhole can read the seventh line—i.e., 6/6—with his right eye, but only the top letter with his left eye. From this we at once infer that Tommie has an error of refraction that must be corrected in his right eye, and that he has some disease or amblyopia in his left eye. As indicated by the symbol H, we remember that his teacher reported that he suffered from headache; we therefore ask the boy about this symptom. We may find that it is not really a headache but a pain in one or the other eye. Quite often the pain occurs in the eye with the better vision, apparently because it is the more used and strained, as it in that case always ceases when the correction is worn. Affections of the fundus in childhood rarely cause pain. It is always well to remember that the teacher's reports are only suggestive, they never warrant a diagnosis based on them alone.

Name.	Report	Observations.
A. R.	P, H.	R. Neb. L. Neb.
R. P.	H.	C.C S. R. Neb. + 4·5 D. L. + 4.5 D.
T. A.	H. . .	R. 6/9. P. 6/6. L. 6/36, P. 6/60.
A. B.	—	R. 6/6. L. 6/18, P. 6/6.

We then put homatropine into each of Tommie's eyes and get him to wait while we examine in the same way each of the other children on our list in turn. Suppose that the next child, Arthur Brown, after this examination has the following notes put after his name: "A. B.: R. 6/6; L. 6/18, P. 6/6." Most probably he will have no difficulty in seeing, and will have made no complaints of headache or eyestrain. Is there any necessity to order him glasses? I think there is for this reason, that if we do not he will use his left eye less and less until it becomes amblyopic. From the note with the pinhole diaphragm we infer that with an optical correction his left eye will now see perfectly, and therefore it is most important that during his school life he should be provided with this correction, as amblyopia develops almost entirely in early life. Later, his employment may necessitate his dispensing with glasses, but should an accident occur injuring his good eye, he will always be able to see perfectly with his left eye when furnished with the correction.

Always do your best to avoid the onset of amblyopia by encouraging the faulty eye to do its fair share of work.

Many children will be reported to you as being unable to see the blackboard, though they see well close at hand. Beware of assuming that all such children are myopic. Some of them will be found to suffer from the so-called "spasm of accommodation." This will at once be discovered on testing them under homatropine by retinoscopy, and they will be found to require convex glasses, if any at all. In the last case, if they are emmetropic, or if their error be only about + 1 D., do not order them any glasses, but give them gutt. atrop. ¼ per cent. three times a day for three days, and allow them to stay from school for 10 days or so until the effects of the atropine are beginning to wear off.

Myopia.—In cases of genuine myopia, as found by retinoscopy, there are several points to be considered.

In slight cases, those of about − 2 D. or less, order the appropriate glasses to enable them to see the blackboard at school, but inform the parents that if there is no further increase of the myopia there will be no necessity for them to wear glasses when they grow up if their work is close—e.g., any work in the shops (such as that of a fitter) or in the mines or any office work, but that they will always require glasses for seeing at a distance. This is important for the parents to know, as myopes are *unfitted for the army, navy, or mercantile marine,* or any occupation in which distant vision without glasses is desirable.

In more advanced cases of myopia there is a great tendency for it to increase, so special instructions must be given to the parents and to their teachers. As the working distance of such patients is much too close their eyes are strongly converged and rotated downwards to see the book or work that is below them. Now, if we think of the muscles that are chiefly employed in depressing eyes that are already strongly converged we remember that they are the superior obliques. When this muscle contracts, especially if there is any synergic action of the inferior oblique, we see at once that the eyeball must be compressed laterally by these encircling muscles, which have no intracapsular ligaments to keep off injurious pressure from the eyeball. It is clear that this lateral pressure will tend to lengthen the eyeball, to make it the shape of a lemon, and hence to increase the myopia, to cause posterior staphyloma, and even retinal detachment. The necessary instructions immediately follow from this note on the pathology of myopia. The eyes must not be rotated downwards. The work should be raised nearly to the level of the eyes, the head being slightly inclined, and held as far off as convenient, at least 12 inches. Books should be placed on a suitable bookrest, or upon a high sloping desk on which all writing should be done. The illumination should come over the left shoulder so that the letters as they are written may be distinctly seen, and not fall in the shadow cast by the writing hand.

Many authorities habitually undercorrect myopia. I give the full correction under homatropine, unless the myopia is extreme, above − 15 D., as I find that the effort to see distinctly with an undercorrection strains the eyes far more than when the full correction is given. I have never found any reason to alter my practice when sufficient care is taken to avoid the action of the superior oblique muscle.

I may as well now give general directions for the treatment of other forms of ametropia.

Hypermetropia.—Should the spectacles be worn constantly or only for near work? In the absence of squint, and when the vision is 6/6 without any symptoms of headache or eyestrain when viewing objects at a distance, do not insist on the glasses being worn constantly. With an error of + 3 D. or more they should be ordered to be worn at school and for all close work. But if the error be only about + 1 D. or + 1·5 D. do not order them. What is the use of ordering + 1 D. glasses to children who have about 15 dioptres of accommodation to compensate for such slight errors? However, remember that in a case of internal squint the correction if over + 1·5 D. must be worn constantly.

Astigmatism.—The whole of the astigmatism found by retinoscopy under homatropine should be corrected by appropriate cylinders, and if there are any symptoms whatever, whether defect of sight or headache or eyestrain, they should be worn constantly. If the astigmatism be oblique the correction is almost certain to be uncomfortable at first; if the discomfort continues for more than three weeks it is well to examine the patient again. It is very common for those who have worn an astigmatic correction for some time with comfort suddenly to complain of discomfort when using them. In such a case it will be nearly always found that the frames have got bent so that the setting of the axis of the cylinder is wrong. All that is necessary is to send the glasses to the optician to have the frames readjusted.

Anisometropia.—In this condition the refraction of the two eyes is different. There are three principal varieties—two logical divisions, the second being subdivided into two varieties: (1) Those who have binocular vision. (2) Those who have not binocular vision: (*a*) Those who use their eyes alternately. One eye is then generally slightly myopic, while the other is hypermetropic; such patients use one eye for close work and the other eye for distance. (*b*) Those who only use one eye, the other being amblyopic. This is the condition that is threatened by every case of squint, and every possible effort must be made to avoid it.

(1) In this class where binocular vision is present the difference of refraction will usually be small, and the full correction should be given to each eye, even if the difference should turn out to be as much as + 4 D. A fully corrected anisometrope may complain of some discomfort at first, which is due to the different prismatic action of the two lenses, when he turns his eyes in extreme directions. When he has learnt to move his head instead of his eyes the discomfort will disappear.

(2, *a*) Theoretically, of course, the correction should be given to each eye, and stereoscopic exercises enjoined so that he may obtain binocular vision. But, practically, these stereoscopic exercises have to be continued for such a long time that no child will have patience enough to persevere with them sufficiently to obtain any valuable result.

(2, *b*) Every effort must be made to regain the sight in an amblyopic eye, and the younger the child the speedier will be the recovery of its sight. The full correction for each eye should be worn constantly; and at meal times the better eye should be covered by a piece of paper or card to force the child to eat his meals with the feeble sight of his amblyopic eye. It is important that the exercise should not be too exhausting to the eye, and that it should be regular, frequent, and not too long continued. Precisely the same course should be followed in every case of squint. The straight eye should be covered up, and the squinting one forced to do all the seeing necessary at meal times.

Retinoscopy.—I do not attempt to explain the principles of retinoscopy to those who are not familiar with the method, but to those who do practise it I should like to give one or two hints that will be found to save time enormously.

1. If the red reflex from the fundus is dull, and if it moves only slowly on rotation of the mirror, the error must be considerable. Do not waste time by trying weak lenses; indeed, it may even be difficult to see which way the reflex moves; put in a + 7 D. at once and make another observation. If the reflex is still indistinct and the movement doubtful, substitute a − 7 D. for the convex glass you have put in, and the reflex will look brighter and the movements will be more rapid and easier to see, showing that you are nearing the correction.

2. One observation is enough if proper attention be paid to it. Do not go on wagging the mirror a dozen times, it wastes time. It is just like percussing a chest a dozen times over the same spot; no further information is gained after the first percussion if the observation is made with proper attention.

Newcastle-on-Tyne.

A CASE OF "SPASTIC" CONSTIPATION.

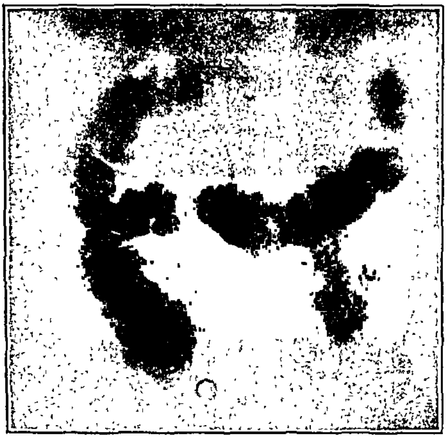
BY RICHARD GOMPERTZ, M.B., B.S. LOND.

THE patient, a man aged 39, has been under treatment at Duff House, Banff. Before admission he complained that for the last five years he had been increasingly troubled with constipation until his bowels never acted except under the influence of an aperient. One year ago he was examined by means of the X rays, and special attention was paid to the cæcum, about which it was thought that adhesions might exist, but nothing abnormal was found. The treatment then prescribed, and most carefully followed, consisted of massage to the abdomen, aperients, and a diet made up of foodstuffs such as porridge, brown bread, green vegetables, &c., which were chosen on account of the large amount of stimulating residue which they leave. His condition, however, failed to improve under this *régime*, and he was admitted to Duff House.

On arrival the patient complained of a feeling of fulness and discomfort in the region of the cæcum and ascending colon. He stated definitely that this sensation was aggravated by taking food, and was accompanied by irritability and depression. He had no gastric indigestion, and had never been troubled with feelings of weight or dragging at the back passage and had not suffered from piles. A motion was seldom produced by an enema, the rectum being usually empty.

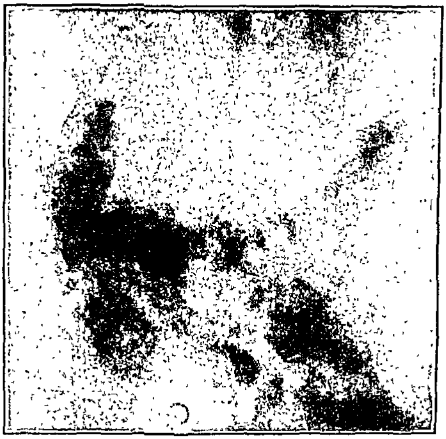
A series of X ray photographs was taken by me in the X ray Department at Duff House, and it was found that the bismuth passed with normal, or even greater than normal, speed through the intestine

FIG. 1.



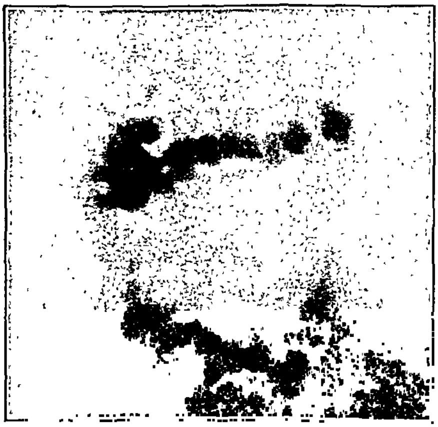
Twenty-four hours after bismuth meal.

FIG. 2.



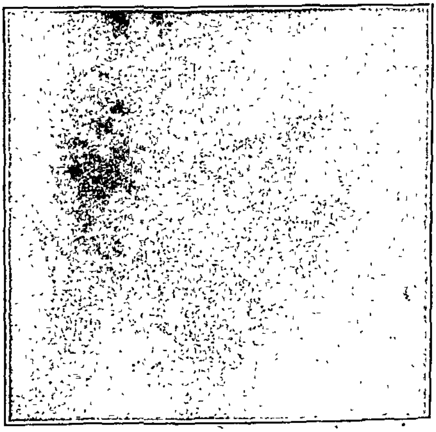
Thirty-two hours after bismuth meal.

FIG. 3.



Forty-eight hours after bismuth meal.

FIG. 4.



Fifty-four hours after bismuth meal.

until it reached the splenic flexure. (Fig. 1, 24 hours after meal.) It was expected that the next stage would be the collection of a large mass of fæces in the pelvic colon and rectum, and that the case would prove to be one of common constipation of the usual form. The next photograph showed, however, a more interesting state; that portion of the bismuth which had reached the transverse colon had been rapidly transferred to the pelvic gut, as was expected, but the descending colon was now contracted and remained in this condition for a considerable time. Fig. 2, which shows this condition well, is reproduced from a photograph taken 32 hours after the meal; by comparing it with Fig. 1 it will be noted that the transverse colon is also contracted. Fig. 3 shows the condition 16 hours later; the transverse colon is admitting material, but the descending colon is still closed. The last photograph reproduced (Fig. 4) was taken 54 hours after the meal, and shows nearly all the bismuth in the descending colon or lower, but even at this time the spasm has not completely disappeared. It seems that this contracture would overtax the propulsive powers of the cæcum and ascending colon, and this idea is borne out both by the patient's sensations and by the unusual size of the cæcum.

In view of these X ray findings it appeared desirable to give a concentrated diet with little residue; to avoid entirely those aperients the action of which is largely to stimulate the large intestine, substituting for them belladonna; and to limit abdominal massage strictly to manipulations directed to empty the overloaded cæcum. Treatment was therefore begun on these lines and has met with success. A pill containing one-sixth of a grain of belladonna was given three times a day for the first few days; the feelings of discomfort vanished and normal motions were passed, the patient continuing to have daily evacuations with no medication whatever.

It is hardly surprising that the former X ray examination, at which bismuth was introduced by the mouth and rectum, led to no positive findings, for such a condition as is here described could only be recognised by means of a series of photographs.

For permission to publish this case I am indebted to Dr. E. I. Spriggs, the senior physician at Duff House.

Banff.

EXTRA-ARTICULAR ANKYLOSIS OF THE INFERIOR MAXILLA

DUE TO FOREIGN BODIES IN THE SCALP FOR TEN YEARS.

By WILLIAM MACDONALD, M.B., C.M. ABERD., L.R.C.P. & S. EDIN.

THE peregrinations of foreign bodies are well known, and the case described below gives additional proof of Nature's untiring efforts to get rid of her enemies, though if unaided they may be futile. In the temporal region foreign bodies, such as a piece of wood, a sequestrum, or pus, may be equally disturbing influences, since they may travel downwards and forwards from the temporal fossa into the spheno-maxillary fissure and descend into the mouth, or downwards and backwards on to the temporo-maxillary joint. Again, a foreign body may travel downwards from the temple and become impacted behind the orbit. In this case grave mechanical interference was produced behind the orbit in front and the temporo-maxillary joint behind.

The patient, a man aged 25, consulted me on June 3rd, 1912, for a small swelling on the side of the right cheek in front of the ear above the zygoma. He gave the following history. When a schoolboy (September, 1902), engaged in erecting a goal-post, the transverse bar fell and struck him tangentially on the head at a spot near where the temporal crest crosses the coronal suture—the stephanion. He was rendered unconscious for perhaps a couple of minutes. On regaining consciousness he found a wound nearly a quarter of an inch long, and went to a cottage close by and had it bathed with cold water. On getting back to school a cold water compress was applied, and on the next day the wound was "sealed," as he termed it, with sticking plaster. The tissues in the vicinity of the wound, however, began to swell, and he had to stop work for a month, by the end of which time the swelling had extended from the side of the head on to the face so that his features were hardly recognisable on the right side. He was sent home, and there saw his medical man, who lanced the swelling and squeezed out "a quantity of semi-gelatinous red substance," which substance continued to ooze out for a few days until the wound closed and dressings were no longer required.

In September, 1903, he entered as an engineer apprentice, and in 1908 commenced his career at sea as an engineer. During these years he still had a swelling on the right temple which caused frequent locking of the jaw. This locking was so troublesome that once during his apprenticeship his medical man was called in, and he tried to overcome the locking by leverage with a cork. The locking of the jaw came on without warning and went away spontaneously. The pain was so severe that mastication and talking became very difficult. The condition would last one or two days and then pass off, but it was exceedingly inconvenient during his first voyage, as occasionally he could not eat.

In September, 1908, a surgeon was consulted and an exploratory operation was performed on the scalp over the temporal attachment by a semicircular incision between four and five inches long. An infinitesimal fragment, supposed to be steel, was found and removed. The swelling was not reduced nor did it subside. Electric massage, full strength, was tried, but as the patient suffered acute pain and mental depression this method of treatment was abandoned. Then his medical man tried counter-irritation. Iodine and blistering were used, but the condition was not improved, and the patient resumed his life at sea, plying for three years between Australia, New York, and the River Amazon.

When he came under my observation in June, 1912, there was a hard fusiform swelling occupying the right temporal region and a small fluctuating swelling over the centre of the upper margin of the zygomatic arch. Suspecting pus, I advised fomentations for three days to the fluctuating swelling, and on June 6th by a vertical incision removed a small quantity of pus, and on squeezing the sides of the wound removed seven small pieces of blackened wood like the graphite core of a cedar pencil; closely fitted together they measured 1¼ inches. The wound was packed with double cyanide gauze every two or three days, but would not close; a small sinus remained. Then there occurred marked difficulty in opening and closing the

In the diagnosis of this condition laparotomy is the only sure means of clearing up doubt, though some other evidences may be considered in a suspected case. There will be no local signs of a carcinomatous nature on abdominal palpation or on rectal or vaginal examination, no glandular or metastatic involvement, and no emaciation, but rather obesity, unless chronic stasis causes auto-intoxication or starvation. The onset will be very slow, for lipoma as a rule is one of the most tardy of neoplasms in developing, so the obstructive phenomena with periods of acute distress may be delayed and gradual. The age of development of this condition is indefinite, though it is not usual till middle life is reached.

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Upper Edmonton, N.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Jan. 23rd, Dr. LEONARD GUTHRIE, the President, being in the chair. The following cases and specimens were shown:—

Dr. T. R. WHIPHAM: A case of Kala-azar in a boy aged 5 years. His father contracted kala-azar in Calcutta a year ago and died recently from that disease. In March, 1913, when in Calcutta, the boy was taken ill with fever and loss of appetite. The motions at that time were white but otherwise normal. The abdomen was enlarged when he arrived in England in June, since when he had lost weight and the size of the abdomen had increased. The child was wasted, especially in the limbs and chest; the cervical, axillary, and inguinal glands were enlarged. The abdomen measured 24½ inches in circumference; the liver extended 3 inches below the costal margin; the spleen was enormous, extending to the middle line and filling the left iliac fossa. Blood count: Red cells, 3,220,000 per c.mm.; white cells, 2200; polymorphonuclears, 46 per cent.; lymphocytes, 38 per cent.; large mononuclears, 12 per cent.; transitionals, 4 per cent; hæmoglobin, 66 per cent. The coagulation time was diminished, being 12 minutes. Leishman-Donovan bodies were present in blood obtained by puncture of the liver.

Dr. WHIPHAM also showed a case of Athethoid Movements in a girl aged 4½ years. The movements, which were present in either hand, consisted of alternate pronation and supination, which became more marked when objects were grasped. The condition was probably due to injury at the time of birth.

Dr. F. LANGMEAD showed a case of Malaria in a girl aged 3½ years. The disease, which commenced in September, 1913, was typical and accompanied by rigors. The mother had malaria while the child was being breast fed. The spleen extended downwards for four finger-breadths below the costal margin, and the liver was also slightly enlarged. Examination of the blood showed benign tertiary parasites in fair numbers, large intracorpuscular forms being seen.

Dr. ERIC PRITCHARD showed a case of Abnormal Cysts on the Shoulders in a baby 6 weeks old. The two cystic swellings were noticed immediately after birth. The presentation is said to have been that of a shoulder (left). The swellings appear to be of the nature of abnormal and persistent capita succedanea.

Dr. J. W. CARR showed a case of (?) Polio-encephalitis. The patient, a boy aged 7 years, had an attack of diarrhœa with severe headache and pains in the limbs in October, 1913. He became unable to stand or speak and also appeared to be blind. On admission in December he could not stand alone and could see only imperfectly, and there was a considerable degree of mental deficiency. The optic discs showed evidence of a subsiding neuritis. After five weeks he began to improve as regards mental condition, sight, and movement, though he still had an ataxic gait. Wassermann's reaction was negative.

Dr. F. G. CROOKSHANK showed a case of Deficiency of Endocrinic Glandular Secretion. The patient, a boy aged 32 months, did not speak and was apathetic and flaccid. Some of the features were suggestive of Mongolism. It was thought that the child had in addition to some degree of Mongolism some pituitary deficiency.

Dr. H. D. ROLLESTON and Mr. E. J. BOYD showed a case of Lymphatic Leukæmia under treatment by Benzole. A boy, aged 6½ years, developed enlargement of the cervical glands after measles and pneumonia. Subsequently the axillary, inguinal, and submaxillary glands also enlarged and the spleen was palpable. In December the leucocytes were 60,000; large lymphocytes, 54 per cent.; small, 16·5 per cent.; and polymorphonuclears, 25 per cent. He was treated with benzole, at first two minims, and later three minims, three times a day. On Jan. 13th the leucocytes were 16,000; large lymphocytes, 41·5 per cent.; small, 46 per cent.; and polymorphonuclears, 10 per cent.

Mr. PHILIP TURNER showed a case of a Dental Cyst following Fracture of an Incisor Tooth in a boy aged 12 years. The right central incisor was fractured as the result of a fall two years ago. Swelling of the jaw was noticed three months ago. There was now bulging forward of the facial aspect of the superior maxilla, depression of the palate on the right side, and widening of the alveolar process. A radiogram showed that the pulp cavity of the fractured tooth was exposed, and that the open apex led directly to the cyst.

Mr. L. E. C. NORBURY showed a girl, aged 5½ years, with Deformity of the Spine of (?) congenital origin. There was a prominence of the last dorsal and the first lumbar spinous processes. There was slight mid-dorsal lateral curvature with convexity to the left. There was no pain or rigidity. X ray examination showed a wedge-shaped condition of the first and second lumbar vertebræ. The von Pirquet reaction was slightly positive.

Dr. PRITCHARD showed a specimen of Double Hydro-Ureter (congenital) in an infant, aged 7 months, who was admitted for diarrhœa and vomiting. The bladder was not distended, but two cystic swellings could be felt internal to the anterior superior iliac spines. The obstruction appeared to have been due to valve-like pressure of the dilated ureters, the primary dilatation being probably due to congenital atresia of the ureteral orifices. The renal pelves were greatly enlarged.

Dr. J. PORTER PARKINSON showed specimens from an unusual case of Jaundice which he considered to have been acute yellow atrophy of prolonged duration. The illness commenced with a rigor. Three weeks later jaundice appeared. The liver was then enlarged but subsequently diminished until death. No leucin or tyrosin was detected in the urine.

The PRESIDENT and Dr. G. A SUTHERLAND made a communication on two cases of Transitory Diabetes Insipidus. The first case was a boy, aged 2½ years, in whom the disease lasted about six weeks. He took 12 pints of water a day, and the urine which contained no albumin or sugar was of specific gravity 1004. There was some diarrhœa and the motions were of a peculiar bluish-grey colour. In the second case, a boy aged two years, the duration was about five weeks. The main symptoms were thirst, drowsiness, and polyuria. There was diarrhœa and the motions were loose, putty-coloured, and offensive. The liver and spleen were enlarged. A possible explanation is that the intestinal derangement set up toxæmia, which acting on the kidneys prevented the output of waste products. Another explanation is that the symptoms were due to toxæmic affection of the vaso-motor centres and sympathetic system, or perhaps of the pituitary body.

SECTION OF OPHTHALMOLOGY

Exhibition of Cases —The Use of Salvarsan in Ophthalmic Practice

A MEETING of this section was held on Feb 4th under the presidency of Sir ANDERSON CRITCHETT

Dr FRANK MOXON showed cases of Congenital Diffuse Opacity of the Cornea *in two sisters* The children and the family had been healthy, there was no history of syphilis, tubercle, or miscarriages One of the children was ill with sickness and diarrhœa at a year old Both Wassermann and von Pirquet reactions were negative There was slight photophobia, but the fields of vision appeared to be normal The cornea was milky, but there was a fairly good fundus reflex The opaque spots were fairly evenly distributed throughout the thickness of the cornea Lenses and vitreous were clear —Mr J H FISHER considered that the tension in all four eyes was somewhat raised, and that there was a possibility of it being a variant of congenital glaucoma The changes were mainly in the epithelium

Mr ANGUS MACNAB showed a case of Nodular Opacity of the Cornea, which he considered bore a relation to Dr Moxon s cases In a similar one, shown before the Ophthalmological Society, the epithelium over the nodules was somewhat heaped up At the extreme periphery of the cornea there were loops of vessels which passed into the cornea and that seemed to be slightly so in Dr Moxon s cases

Mr J B LAWFORD showed a case of Brawny Scleritis The etiology as in all these cases was obscure It was an inflammatory process with much infiltration by cells, there was nothing to suggest new growth Every test applied to the case had turned out to be negative

Mr W J INMAN showed, through Mr LESLIE J PATON a case of Irido cyclitis in a boy who had been living in Africa, and was now suffering from typanosomiasis Gambiensi Last October his left eye became inflamed, and three weeks ago its fellow behaved similarly Mr Inman had the Wassermann reaction taken and it was positive, but the Wassermann reaction was positive in the disease afflicting the patient There was a beautifully marked circinate rash on the front of the thigh and enlarged soft posterior cervical glands from which failing it being found in the blood the trypanosome could generally be recovered The Rhodesian form of the disease seemed to be more severe than the Gambian Dr Daniel, whom he consulted about the case, said he would rather treat such a one with repeated small doses of atoxyl than with salvarsan —Mr E TREACHER COLLINS referred to a case of sleeping sickness which he saw with Sir Patrick Manson and described the appearances Eye diseases seemed to be very uncommon in connexion with sleeping sickness

Mr ORMOND showed a Case for Diagnosis, and Dr A L WHITEHEAD (Leeds) discussed it

Mr CUNNINGHAM showed a case of Massive Exudate in the Retina

Mr W LANG then introduced a discussion on the Use of Salvarsan in Ophthalmic Practice He reviewed the knowledge up to date, and discussed the probable mode of action of salvarsan During the early stages of syphilis, before the spirochætæ had reached the avascular tissues, salvarsan acted readily and quickly, but later it was less efficacious though gummata of iris, sclerotic and ciliary body seemed to be favourably influenced by the treatment With regard to parasyphilitic diseases the Argyll Robertson pupil had once been known to react again to light following intravenous injections of "606 Ophthalmoplegia externa and primary optic atrophy had not been definitely improved by the treatment After injecting a large dose of salvarsan into a rabbit's vein none of it was found in the cornea, though specially searched for The usual dose of salvarsan for the adult male was 0 6 gramme, and for the adult female 0 5 gramme, while if neosalvarsan were used the dose must be 50 per cent more The destruction of the parasites should be effected as soon as possible, before they had the opportunity of becoming immune to the drug He instanced cases in which greatly increased doses with that object had been efficacious Thanks largely to Mr Browning, salvarsan was now known to be a successful treatment for sympathetic ophthalmia and studies on the blood condition enabled one to foresee the onset of the condition —Lieutenant Colonel J W GIBBARD, R A M C said that although salvarsan had not supplanted mercury its action was more rapid and intense, and he narrated some striking cases illustrating this fact Secondary lesions seemed to be more intractable than primary, and relapses were more frequent The feature of secondary cases was the tendency to affections of the central nervous system, which was more often involved than was formerly supposed He did not believe this was due to salvarsan, cases were heard of more because everyone was on the look out for untoward symptoms following the use of the new drug salvarsan He knew of only two cases of cerebral nerve disturbance in 1200 cases in which the drug was used And where this did occur an increased dosage caused a disappearance of the trouble Syphilitic meningitis was more prone to relapses because of the inaccessibility of the subarachnoid space Having killed off the main army of the organisms it seemed necessary to keep in the blood a remedy which would deal with scattered survivors At his headquarters they had given 4000 intravenous injections and the soldier concerned was followed up wherever he went —Mr S H BROWNING read an interesting paper in which he detailed his cytological studies and the reasoning which led him to suggest giving salvarsan for sympathetic ophthalmitis He had had excellent results in syphilis from salvarsan given per rectum, that the drug was absorbed when so given was proved by the occurrence of an arsenical rash following the method Out of 500 to 600 cases he had not heard of a single instance of ocular palsy, optic neuritis or other similar trouble The most successful results from the method were in syphilitic iritis, gummata of the sclera also vanished in a marvellous manner under salvarsan and potassium iodide He agreed with the general opinion that in interstitial keratitis it was not much good, though there had been one or two notable exceptions His usual method was to give the drug intravenously Neosalvarsan was more toxic than salvarsan

The debate will be continued at a special meeting of the section

SECTION OF PSYCHIATRY

The Influence of Toxins on the Central Nervous System —The Importance of Disturbance of Personality in Mental Disorders —Exhibition of Specimens

A MEETING of this section was held on Jan 27th Sir GEORGE SAVAGE, the President being in the chair

Dr DAVID ORR and Dr R G ROWS communicated a paper entitled Further Observations on the Influence of Toxins on the Central Nervous System ' Experiment showed they said that toxins travelled upwards readily in the perineural lymphatics, and the irritation was continued in the central nervous system if the toxins succeeded in gaining that level Continuity of extension was an important *feature, and was as constant in the central* as in the peripheral nervous system The lymphogenous infiltration was characterised firstly, by reaction of cells of the fixed connective tissues, secondly, by proliferation of the cells of the adventitial sheath of veins and capillaries, [illegible] the cord [illegible] ly, nerve [illegible] cells was [illegible] sane and some other conditions They had found that the lymph path of the nerves was an important mechanism in brain and cord infection and probably general paralysis and tabes were lymphogenous infections Another mode of infection of the central nervous system was by the blood stream and over and above the deleterious influence on nerve tissue of organisms and toxins one had to remember the effects of products of altered metabolism, and the influence of hyper and hypo secretion of the ductless glands In the present series of experiments the authors had commenced a study of the effects of bacterial intoxication on the spinal cord, and had chosen the abdominal cavity as the site of the experiments The reasons for this were multiple (1) this site was most suitable for experiment in which one wished to exclude infection of the lymph system of the spinal nerves, (2) in order to reproduce, as closely as possible gastro intestinal intoxication and observe the effects on the spinal cord, and (3) to ascertain how far such toxic infection affected the occupied allowed the meal to settle in the stomach and separate itself from the gases always present. He then placed an opaque disc over the umbilicus and made his first screen examination and then exposed a plate. All examinations were made with the patient in the upright position. That there might be no risk of the bowels moving during the period under which they were under examination he advised that they be thoroughly emptied the day before the first examination was made, and in order to interfere as little as possible with the patient's routine the patient was first examined at 9 A.M. without having had breakfast. The second examination was made at 1 P.M., the patient having received strict injunctions to take no food in the interval. After the second examination the patient was allowed to take lunch and tea and dinner as usual. No purgative was given during the time the examination was being undergone. Taking Hertz's time-tables as his guide, he found that making examination at intervals of 3½, 8, 12, and 24 hours after the first, gave all the information obtainable in most cases, though occasionally one had to go on for 36 and 48 hours or even longer. Very often the 12 hours' examination could be omitted; this depended on the rate of progress observed on the screen. The skiagrams showed that they could demonstrate the exact position of the various organs comprising the alimentary system in health and also their variation in disease. Further accurate information regarding their conformation under the two conditions could be revealed. They could also learn something about the rate of progress through the alimentary canal of its contents, and should delay be one of the conditions present attention would be directed to the affected area with unerring truth. Lastly, it could give invaluable information with regard to the condition of the walls of the various organs, whether they were healthy or in a state of degeneration and atony. In those cases in which an operation was called for, the surgeon had at his command a method of investigation which enabled him to decide before opening the abdomen the nature of the operation he would probably be called upon to undertake and the extent of diseased intestine he had to deal with. Radiograms were shown of a case which demonstrated clear evidence of degeneration in the cæcum, ascending colon, hepatic flexure, and right half of the transverse colon, and in which Mr. Stiles, instead of doing a complete Lane's operation, resected the portion of large intestine mentioned and planted the ileum into the healthy left half of the transverse colon with very happy results. Another radiogram showed an even more advanced stage of atony, involving as it did the whole of the colon. Prints of this case were shown to Sir Arbuthnot Lane, and on the strength of them and of other clinical evidence he advised that a colectomy should be performed. Another case was that of a woman, aged 41 years, with symptoms attributed to intestinal stasis, headache, malaise, constipation, and unfitness for work. The radiogram showed that she had a very low colon and there was marked delay in the cæcum and colon. Mr. Stiles performed an ileopelvicolostomy, and eight months afterwards she was perfectly well. A radiogram taken then after a bismuth meal showed that a great part of the food had regurgitated into the transverse colon. Yet all symptoms which were supposed to be due to absorption from the large intestine had disappeared. This case seemed to bear out Professor Adami's contention that absorption from the large intestine did not take place, at any rate to the extent it was supposed to by some physicians.—Dr. G. Lovell Gulland thought that there might be spasm of the bowel and that the appearance which this presented in the radiogram might occasionally mislead one.—Mr. Harold J. Stiles said that the more he saw of radiography the more highly did he think about it. It was most useful in cases of disease of the large intestine, though one could make a very correct diagnosis without radiography. Mistakes in radiograms might be due to faulty interpretation. He referred to Jackson's veil and its effects.—Professor William Russell, Dr. T. M. Burn-Murdoch, Mr. A. Scott Skirving, and the Vice-President also took part in the discussion.

Dr. Byrom Bramwell gave a communication on Diffuse Sclerodermia: its frequency, its occurrence in stonemasons, its treatment by fibrolysin, and elevations of temperature due to fibrolysin injections. He said that diffuse sclerodermia was a very rare condition. Dr. Phineas S. Abraham, the writer of the article on Sclerodermia in Allbutt and Rolleston's "System of Medicine," stated that McCall Anderson met with 2 cases in 11,000 diseases of the skin, and Crocker 2 in 10,000 cases. In 17,140 general medical cases seen in his (Dr. Bramwell's) hospital practice (8502 in-patients and 8638 out-patients) there were 7 cases of diffuse sclerodermia, and in 10,000 general medical cases seen in private practice of which he had kept notes there were 2 cases. Cases of diffuse sclerodermia came at least as frequently under the care of the general physician as under the care of the dermatologist. In 21,000 cases of diseases of the skin seen by McCall Anderson and Crocker, there were 4 cases of diffuse sclerodermia, while in his 27,000 cases of general medical disease there were 9 cases of this disease. His next point was the relatively frequent occurrence of diffuse sclerodermia in stonemasons. In his 9 cases 5 were stonemasons and one was a coppersmith, who also was accustomed to work with a cold chisel. The only apparent cause which he was able to suggest for the relatively frequent occurrence of diffuse sclerodermia in stonemasons was the holding of a chisel in the hand during cold weather. In all these 6 cases the disease commenced in the hands. In none of these was there any history of syphilis. Dr. Phineas Abraham made no mention of the occurrence of this disease in stonemasons and he informed him (Dr. Bramwell) that he knew of no writer who did so. He felt certain that his own experience on this point could not be peculiar. He had been so impressed with the occurrence of sclerodermia in stonemasons that in the last three cases which had come under his observation he had correctly suggested the occupation of the patient as soon as he had seen and felt the hands and before he had asked him a single question. The next point to which he referred was the marked improvement which resulted in some of his cases of diffuse sclerodermia from subcutaneous injections of fibrolysin. In two of his cases the injections, which at first produced no disturbance of temperature and pulse, later produced marked elevations of temperature. In both cases these temperature alterations were identical in character. In a case of disseminated sclerosis a very high temperature (105·8° F.) followed an injection of fibrolysin. Dr. Bramwell then drew attention to the close resemblance in some of its clinical features of diffuse sclerodermia to Raynaud's disease. In almost all of the cases exposure to cold produced the same cold, blue, dead condition of the hands which was such a striking feature of Raynaud's disease. In four of the cases painless sores, which were very slow to heal, developed on the knuckles or finger tips, apparently as the result of slight injuries; in one case the tip of one of the fingers became gangrenous. In one case shown to the society the condition when he first saw it 14½ years ago was typically that of sclerodermia—the hands, feet, face, and thorax were affected. The hard, brawny, swollen condition of the hands and the hide-bound condition of the face and front of the chest had now in great part disappeared. The fingers had become bent in towards the palm and the tips of several of them were destroyed or distorted as the result of trophic lesions, highly suggestive of Raynaud's disease. Further, nævi and pigmented patches characteristic of xerodermia pigmentosum had developed on the face, chest, and back. Hæmatinuria was carefully inquired for, but was not observed in any of the cases, though in several, pains, apparently rheumatic, and stiffness of the joints were complained of. The clinical features of diffuse sclerodermia were, to his mind, very suggestive of a trophic or vaso-motor neurosis, but in none of the cases were any definite objective symptoms suggestive of syringomyelia or other definite nervous lesion detected.—Dr. R. Cranston Low thought that Dr. Bramwell's experience was unusual, as most of the cases occurred in females. He thought that the rise of temperature seen after the first few injections had been given were due to sensitisation or anaphylaxis.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of State Medicine.

President's Address.—Admissions to Westmorland Lock Hospital, Dublin, since 1860.

A meeting of this section was held on Jan. 16th, Dr. T. Percy C. Kirkpatrick, the President, being in the chair. The President delivered an address dealing with the origin of some of the existing Dublin hospitals, which was illustrated by lantern slides.

Dr. G. E. PUGIN MELDON read a paper on Admissions to the Westmorland Lock Hospital, Dublin, since the year 1860. He illustrated his remarks by charts, showing the yearly admissions and also the diseases. The decline in the number of admissions he attributed chiefly to three causes—namely, less acute symptoms, closing of irregular houses in the city, and change in the type of prostitute. He also showed tables of the birthplaces of the patients.

Mr. H. MOORE urged the necessity for this section of the Academy laying its views before the Royal Commission at present sitting to inquire into the subject of venereal disease. He referred to the fact that the terms of reference excluded the consideration of the conditions under the Contagious Diseases Act. He maintained that the principal source of venereal disease was the prostitutes, and that unless something was done to stop the disease amongst them and make them come up for treatment energy would only be wasted. In his opinion every medical body ought to express their opinion very definitely on the subject—i.e., unless the source of the disease is tackled it cannot be stopped. General hospitals should be called upon to undertake the treatment of syphilis and gonorrhœa, as otherwise students could not be expected to be acquainted with the diagnosis and treatment of such affections.

Dr. J. A. MATSON said he thought that the incidence of the disease was decreasing. He was struck by the objections which some respectable women who had contracted the disease had to go for treatment to the Lock Hospital. His view was that this hospital should be looked upon as the proper place for treatment of every woman so suffering. His experience was that those patients who had been treated at the Lock Hospital always sought treatment afterwards when there were manifestations of a recurrence of symptoms, but that they went to other hospital dispensaries rather than to the Lock Hospital, knowing that they would receive treatment as out-patients. He pointed out that in Dublin there was a large number of women known as "privateers" who spread infection much more than the regular prostitute. He mentioned that the increase of venereal disease in Liverpool was found to be enormous after the repeal of the Contagious Diseases Act.

Dr. R. J. ROWLETTE said that accurate statistics on the subject were most necessary, and if notification could give accurate statistics he thought the profession should declare in favour of notification, but it seemed to him that as a preventive of the disease notification would be the worst step that could be taken, as it would, he considered, put a barrier in the way of early treatment. If a patient suffering from venereal disease had to be notified, he thought the result would be that he would not seek treatment until forced to do so. He considered notification a most dangerous step, and expressed the hope that the profession would be opposed to it. He suggested that if each medical man was asked to make a return of cases treated by him without giving any names some help might be given, although he was alive to the fact that in this way there might be overlapping by the same patient consulting different doctors.

The PRESIDENT said that any return to the Contagious Diseases Act was not only unlikely and would be unsatisfactory, but was absolutely impossible and outside practical politics at present. He did not think that the notification of infectious diseases had proved the great panacea which the public health authorities would have us believe. He agreed with Dr. Rowlette that any form of notification of venereal disease would tend rather to increase the disease than diminish it. He looked forward to early and accurate diagnosis to diminish the disease. He considered that every medical man should have at his disposal the latest scientific methods for making accurate diagnosis, and this he believed would do more to stamp out the disease than anything else. His experience was that men were not adverse to treatment, but that there was some difficulty in getting them to continue it sufficiently long, but provided an early and accurate diagnosis could be made he thought that much could be done to stamp it out at all events in men. He did not consider there was any great change in the severity of the disease.

Dr. J. M. DAY, Dr. G. E. NESBITT, Dr. W. M. CROFTON, and Dr. W. A. WINTER also spoke, and Dr. MELDON replied.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 6th, Dr. David Ross, the President, being in the chair.—Dr. T. B. Hyslop read a paper to open a discussion on Neurasthenia. After discussing the question as to the prevailing confusion with regard to the term neurasthenia and to its unwarrantable extension so as to include widely different conditions which in reality pertained to other affections Dr. Hyslop discussed the mechanism of the nerve unit, the intracranial circulation, and the various processes of waste and repair, both in the normal and in the morbid. From the clinical standpoint he considered that there was no affection, or group of symptoms, or syndrome more prevalent, or more likely to become more increasingly prevalent, than that of neurasthenia. It is a disease of civilisation and also, in his opinion, a warning that over-pressure, when combined with defective bodily health, could have but one result—viz., degeneration. The nervous system in itself is capable of vast and continued exertion so long as it is adequately and efficiently maintained by the body mechanism of waste and repair, and the finer and the more sensitive the nerve mechanism the greater the need for the careful regulation of its nutritive and excretory processes. This is exemplified in connexion with some forms of nervous and mental disorder which, although frequently regarded as hereditary and therefore incurable, are in reality mainly hereditary defects of the bodily mechanism by means of which the waste and repair of the nervous system are duly effected. The truth of this statement, he thought, was exemplified in families which were prone to suffer from glandular anomalies with imperfect balance of the nutritional and metabolic processes. The part played by the internal secretions was next discussed, and examples of the results of defects in the functions of the thyroid, parathyroid, pituitary, adrenal, and testicular organs were discussed. Although we were as yet unable to form clear conceptions as to the relative rôles of the internal secretions, their importance in maintaining health was clearly evident. Undoubtedly many of the psychoses, both alternating, progressive, and permanent, might be traced to defects in these or other glands—the nervous system itself being merely a participant in the general metabolic defect. He was inclined to believe that all the rhythmical, alternating, or intermittent psychoses were due to faults in the mechanism of waste and repair as determined by the various organs of excretion and secretion. He regarded therefore every form of psychosis which is rhythmical or alternating in its occurrence as being somatic and extracranial in origin. The various effects of variations in intracranial arterial and venous blood pressure were next discussed and clinical examples given.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 29th, Mr. Chichele Nourse being in the chair.—Dr Percy Jakins showed (1) a case of Cancer of the Larynx in a man aged 43, with ulceration of both vocal cords; and (2) a case of Tertiary Syphilis of the Larynx, with paralysis of the right vocal cord, œdema of the arytenoids, and a positive Wassermann reaction.—The cases were discussed by Mr. Nourse, Mr. C. J. Heath, Mr. G. Jackson (Plymouth), and Dr. J. Coubro Potter.—Dr. Byrne replied to the discussion in the absence of Dr. Jakins.—Mr. Heath read notes of three interesting and instructive cases of Aural Suppuration.—In the discussion on the first case Dr. Potter expressed the opinion that it was not always advisable in cases of chronic aural suppuration to conserve the drum and ossicles owing to the liability of fibrous tissue to form in the tympanum after operation and thus impair the hearing. In regard to closing the Eustachian tube, this, he thought, was not always a good practice, as after operation hearing was sometimes much improved upon inflation with the Eustachian catheter.—Mr. Cyril Horsford also discussed the question of the correct treatment of the Eustachian tube. He could not agree with the view that it was a *sine quâ non* that the Eustachian tube should be closed. Was it not better to have an ear moist but hearing rather than dry but deaf? Moisture after operation might be looked on as a sign of success and not failure.—Mr. Nourse raised the question of the best treatment of the tympanic orifice of the Eustachian tube. It seemed to be an accepted fundamental principle in all cases to curette this orifice. He doubted very much if it was always correct. It would certainly have the effect of drying the tympanic cavity and might seriously impair the hearing.—In reply, Mr. Heath said that in radical operations he retained the mucosa of the inner tympanic wall and left the Eustachian tube open, because the mucous membrane required a drain, and none was so effective as the tube. To the assertion so often made that with a patent Eustachian tube the tympanic mucosa was liable to infection through it, he would reply that this mucous surface was far more freely exposed to bacterial infection through the large meatus than through the small Eustachian tube, yet it was the latter only which attracted attention. When possible he preserved the drum-head in order to prevent evaporation from the middle ear.—After Mr. Heath's other two cases had been described and discussed, Mr. Nourse exhibited a case of Double Abductor Paralysis of very short duration, and in which the clinical signs and symptoms pointed to the presence of a mediastinal growth.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A pathological meeting of this society was held on Feb. 6th at the West London Hospital, Dr. F. S. Palmer, the President, being in the chair.—The following specimens were shown. Mr. W. McAdam Eccles: (1) Diverticulitis of Colon (iliac); (2) Empyema of Gall-bladder; (3) Two-inch French Nail swallowed by infant and passed naturally; (4) Myxofibroma of Ileum causing intussusception.—Mr. Aslett Baldwin: (1) Hydro-nephrosis; (2) Carcinoma of Rectum; (3) Uterus with Sloughing Fibroid; (4) Microscopic section of Carcinoma of Breast; (5) Microscopic Section of Sarcoma of Rib.—Mr. Donald Armour: (1) Two Spinal Cord Tumours; (2) two Brain Tumours; (3) Gall-bladder and part of Liver removed for Carcinoma; (4) Carcinoma of Cæcum.—Dr. Arthur Saunders: Microscope slides from case of Lymphatic Leukæmia.—Mr. H. S. Souttar: (1) Diverticulitis of Ascending Colon with Large Stercolith: (2) Calcified Fibroma of Ovary, 4½ lb. (obstructed labour); (3) Strangulated Appendix from Femoral Hernia; (4) Gastric Ulcer perforating Abdominal Wall; (5) Carcinoma of Rectum; (6) Fibroids.—Dr. E. F. Travers: Carcinoma of Body of Uterus and Microscopic Section of Endometrium.—Dr. J. M. Bernstein: (1) Typhoid Ulceration of Cæcum, Colon, and Appendix; (2) Acute Osteomyelitis of Humerus; (3) Nasal Septum of Horse showing Glanders.—Mr. N. Bishop Harman: (1) Glioma of Eye; (2) Sarcoma of Choroid.—Dr. H. J. F. Simson (1) Carcinoma of Body of Uterus; (2) Fibroids; (3) Fibrosis of Uterus; (4) Sloughing Fibroid; (5) Extra-uterine Gestation.—Dr. R. R. Elworthy showed an extremely fine collection of interesting specimens recently added to the museum; also a large number of microscopic sections of specimens and films of organisms, &c.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 14th, Dr. P. Watson-Williams being in the chair.—Dr. Carey F. Coombs read a paper on Conditions Simulating Thoracic Aneurysm, in which he stated that three groups of cases may be recognised—namely, (1) diffuse aortic dilatation; (2) aortitis, syphilitic and otherwise; and (3) mitral stenosis producing enlargement of the left auricle with pressure signs, or hypertrophy of the conus arteriosus dexter with abnormal pulsation.—Dr. Watson-Williams showed two patients on whom an intranasal frontal sinus operation had been performed by opening up the fronto-ethmoidal cells from a point corresponding to the anterior attachment of the middle turbinal.—Dr. G. Munro Smith read notes on two cases, females aged 61 and 76 years respectively, both of whom presented during life signs simulating Malignant Disease of the Liver—namely, jaundice with enlargement of the liver and a visible and palpable tumour apparently in the liver. The diagnosis was confirmed in each case by several medical men, but after death the tumours had disappeared, and in the first case a post-mortem examination showed the liver to be normal in size and no tumour to be present. No post-mortem examination was performed in the second case.—Professor James Swain suggested that the condition was one of phantom tumour of the rectus abdominis.—Dr. J. Michell Clarke thought that the hepatic enlargement was due to engorgement secondary to cardiac failure.—Mr. J. P. I. Harty showed a case of Acute Mastoiditis involving the outlying cells alone, a subperiosteal abscess forming over the mastoid without involvement of the middle ear or mastoid antrum.

Reviews and Notices of Books.

A Manual of Venereal Diseases.

Introduction by Sir ALFRED KEOGH, K.C.B., late Director-General of the Army Medical Service; History, Statistics, and Invaliding, by Brevet Colonel C. H. MELVILLE, R.A.M.C., late Professor of Hygiene, Royal Army Medical College; Clinical Pathology and Bacteriology, by Brevet Colonel Sir WILLIAM LEISHMAN, K.H.P., F.R.S., R.A.M.C., Professor of Pathology, Royal Army Medical College; Clinical Course and Treatment, by Major C. E. POLLOCK, R.A.M.C. Second edition, revised and largely re-written, with new matter by Major L. W. HARRISON, R.A.M.C., Clinical Pathologist, Military Hospital, Rochester-row. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 318. Price 10*s.* 6*d.* net.

THE opportunity afforded by the demand for a second edition of this book has been taken thoroughly to revise and in fact to re-write it, for it was essential to incorporate the great and rapid advances of our knowledge of syphilis. The work has been well done and reflects great credit on its authors. The importance of a good knowledge of venereal disease cannot be overrated, and the writers of this book are well qualified for their task by the positions which they occupy.

Unfortunately the British Army suffers greatly from all forms of venereal disease, but there is good evidence of much improvement in this respect. The numbers of those sick in the army both for syphilis and for gonorrhœa tended steadily to increase until about the year 1886, when syphilis accounted for a daily inefficiency of 13 per 1000 and gonorrhœa of 7 per 1000. From this time the figures have fallen, and in 1910 each was responsible for less than 4 per 1000. While many causes have coöperated, Sir Alfred Keogh expresses the opinion that the chief cause of this diminution has been an increase in temperance. The chapter on the methods of prevention is one of the most interesting in the book, and it is probably the most important. The value of inculcating continence is also insisted on, and it is mainly to these two factors—temperance and continence—that we must look for an improvement in the extent of these diseases, not only in the army, but also in the general population.

A very good account is given of the spirochæta pallida and the various methods of demonstrating its presence, and a most valuable chapter is that devoted to the Wassermann reaction, which is of such great importance both in diagnosis and in treatment. We are glad to see it pointed out that there is no stage of syphilis in which the percentage of positive reactions to the test is 100, so that a negative reaction can never certainly exclude the disease, though it is too often accepted that a negative test is certain. The luetin reaction is spoken of with much favour, and we think it is a pity that this test is not employed more widely in this country. The clinical course of the disease is well described, and some good coloured illustrations of skin manifestations are given.

Perhaps the most important chapter is that dealing with treatment. The mixed treatment of salvarsan and mercury is recommended, and this agrees with the opinions of most of those who have had much experience in this matter. On the whole, preference seems to be given to salvarsan as compared with neosalvarsan, mainly on account of the instability of the latter drug; and it is stated that it would be inadvisable to employ neosalvarsan in tropical climates.

Altogether, we have been very pleased with this work. Practitioners may safely trust to its teaching and will find adequate accounts in it of all venereal conditions.

A Dictionary of Applied Chemistry.

By Sir Edward Thorpe, C.B., LL.D., F.R.S., assisted by Eminent Contributors. Revised and enlarged edition. In five volumes. Vol. V.. With illustrations. London: Longmans, Green, and Co. 1913. Pp. 830. Price 45*s.* net.

The final volume of this great dictionary contains several articles of interest to medical readers. Prominent amongst these may be mentioned "Synthetic Drugs, or Medicinal Products," by Dr. Virgil Coblenz, of New York; "Vegeto-alkaloids," by Professor Wyndham R. Dunstan and Dr. T. A. Henry; "Urine," by Dr. W. D. Halliburton; and "Toxins and Antitoxins," by Professor R. T. Hewlett. Opinions will differ as to whether the subjects of the last two articles mentioned properly fall into the category of "applied chemistry," but the difficulty of deciding what subjects to include and what to exclude will be understood. The ever-increasing applications of chemistry which lead every year to the creation of fresh industries makes the inclusion of physiological processes very generous. But it is obvious also that there are many substances which, though not of direct industrial importance, call for a reference in a dictionary that, according to the preface to the first volume, claims to give "a presentation of contemporary knowledge, both as regards the science and its applications"—and lives up to its claim. The article on urine is a purely chemico-physiological monograph, and does not refer to the use of that excretion in certain, though it may be classic, technical processes.

The list of contributors again shows the selection of admitted authorities upon the individual subjects treated. Professor Percy Frankland, for example, has written an admirable article upon water, in which he deals not only with general questions of natural supply but also with specific considerations relating to purity, action on metals, and methods of chemical and bacteriological analysis. This monograph occupies over 50 pages of the dictionary, and the importance of the subject demands adequate treatment. It is here approached from many points of view and always in the light of modern knowledge, and it has been a real pleasure to read it. The section on vegeto-alkaloids shows also exhaustive treatment, something like 53 pages being devoted to these bodies, interesting alike from a chemical and a pharmacological point of view.

In the contribution on synthetic drugs or medicinal products a useful classification is adopted into: (1) antipyretics, antirheumatics, and antineuralgics; (2) antiseptics and disinfectants, nonphenolic and phenolic; (3) diathetics; (4) anæsthetics; (5) organic arsenicals and chemo-therapeutics; (6) synthetic cathartics; and (7) organotherapeutic agents. Altogether, and considering the space at the writer's disposal, this is a very able collation of facts. The longest article of all is that on sodium by Dr. Arthur Carey, of the United Alkali Company. Chemists will appreciate the completeness with which all the processes that appertain to the great soda industry and soda products generally have been described. Mr. James Connah, of the Government Laboratory, has contributed three excellent and up-to-date articles upon tea, whisky, and wine respectively. Another Government chemist, Mr. D. A. Gracey, has written an illuminating monograph on tobacco, although we should like to have had some further particulars on the addition of sweetening agents, oils, and flavouring materials to tobacco, for this is now a common practice in spite of the Pure Tobacco Act of 1842. There is very little pipe tobacco sold now which is free from foreign flavourings that bear no sort of likeness to the flavour of the real pure leaf itself.

Another exhaustive article is that on sugar, contributed by a well-known authority, Mr. B. E. R. Newlands, who unfortunately died recently. The distinguished expert, Dr. Julius Lewkowitsch, who contributed the articles on tallow and certain oils, also died a short while ago; while Mr. John Heron, a classic authority on the starches, and the writer of the articles in the dictionary on this subject, is now unfortunately amongst the contributors described in parentheses as "the late."

At the outset we congratulated Sir Edward Thorpe on his choice of contributors. We beg to congratulate him again, now that we have completed our review of the series, on having received the coöperation of men obviously eminent in the subjects allotted to them to write upon. The five volumes present a remarkable wealth of material in regard to applied chemical science, and no scientific reference library will be without them. Now that this dictionary of applied chemistry is completed it is to be hoped that its companion on pure chemistry—viz., "Watts' Dictionary of Chemistry"—will similarly be brought up to date. The last edition of this work was issued in 1890, and the justification for the new edition of "Applied Chemistry," that chemistry has advanced by leaps and bounds since that date, applies equally to the work on pure chemistry.

The Practice of Obstetrics.

By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College, &c. Fourth edition, revised. Twenty-second thousand. Illustrated. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 1062. Price 30*s.* net.

Professor Edgar's excellent work has now reached its fourth edition and its twenty-second thousand. It contains the results of a large clinical experience and is a mine of information. The fourth edition has been thoroughly revised and much new material has been added.

A series of observations on the blood pressure carried out on 145 women in the last months of pregnancy show that the blood pressure in pregnancy is apt to be low, rarely exceeding 120 mm. of mercury. In the latter months the average is 115–120 mm., until the beginning of labour, when there is a rise of 15–20 mm. The author accepts Gerhardt's view that the displacement of the heart's apex by the growth of the fœtus has been misinterpreted as a sign of hypertrophy. In the treatment of cases of sepsis, Professor Edgar has had good results from the employment of a polyvalent serum used locally and subcutaneously in 50–60 c.c. doses every 48 hours for three doses if necessary. He has tried vaccines persistently and without success. The author's conclusions as to extraperitoneal Cæsarean section are as follows: in uninfected cases the operation does not give such good results for mother and child as ordinary Cæsarean section. Even in infected cases it has yet to be shown that the extraperitoneal operation is superior to the classical operation combined with eventration of the uterus and its subsequent removal. It must be remembered, however, that in the extraperitoneal Cæsarean section the uterus is saved for future child-bearing. Unlike most obstetricians at the present time, the author does not recognise that pubiotomy has any advantages over the older operation of symphysiotomy, and regards the danger of injuries to the maternal soft parts as about equal in the two operations.

A new section is added on Momburg's method of constriction of the abdomen for the control of uterine hæmorrhage; stress is laid upon the several dangers which may attend this procedure. They are necrosis of the intestine from the pressure, embolus from thrombus formation in the constricted aorta, failure of the heart and circulation both during the application and after the removal of the rubber band, and miscellaneous injuries from pressure. The method is undoubtedly a valuable one, but must be used only in desperate cases, and then with discretion and care. Additional space also is devoted to a consideration of cases of funnel pelvis, a contracted outlet being regarded as one in which the transverse diameter between the tuberosities of the ischium measures 3¼ inches or under. In measuring the posterior sagittal diameter Professor Edgar employs what he terms the direct manual method. In this the ulnar border of the right fist is adjusted to the sacrococcygeal joint and the upper surface of the flexed index finger or of the thumb is made to correspond to the interischial diameter. The diameter of the fist between these two points is then measured with a pelvimeter.

The book is very profusely illustrated; six of the old illustrations have been re-drawn and 51 new ones added to the text. The index is good and full, and this edition certainly should have as favourable a reception from the profession as the preceding ones.

Arterio-sclerosis: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment, with a Special Chapter on Blood Pressure.

By LOUIS M. WARFIELD, A.B., M.D., Assistant Superintendent and Resident Physician to Milwaukee County Hospital, &c. With an Introduction by W. S. THAYER, M.D. Illustrated. London: Henry Kimpton. Pp. 220. Price 10*s.* 6*d.* net.

THIS useful monograph upon the important subject of arterio-sclerosis has reached the second edition and been brought thoroughly up to date. Arterial disease and degeneration are so common that they have recently received careful study from the various standpoints of the clinician, the histologist, and the experimental pathologist. The results obtained are admirably summarised and critically discussed in the book before us. Professor Thayer, in a brief introduction, strongly condemns the widespread and indiscriminate popular use of the term arterio-sclerosis as a complete and satisfactory clinical diagnosis, where tortuous temporal vessels or palpable radials co-exist with obscure symptoms.

In the first two chapters Dr. Warfield deals with the anatomy and pathology of arterio-sclerosis and gives a clear account of its histology. He also discusses the experimental work carried out with a view of inducing like changes in the vessels of animals. He deals with the physiology of the circulation and gives a full account of the various forms of sphygmomanometer and of the methods of using them, together with a careful consideration of the information obtainable by their use. The etiology of arterio-sclerosis and the clinical features presented by patients with arterio-sclerotic changes in their vessels are considered at length.

Diagnosis and prognosis are dealt with fully in separate chapters. Dr. Warfield lays special stress upon prophylaxis, and counsels "moderation in all things as the keynote to health." He suggests that men and women past the age of 40 years should be urged to submit to a routine physical examination by their medical attendant twice a year. The treatment of arterio-sclerosis and of its consequences is dealt with fully, and some useful general directions are given as regards both the ordering of the life and habits of the patient and the medicinal treatment. A short chapter is devoted to arterio-sclerosis in its relation to life insurance.

We can commend this book as a readable and instructive presentation of a difficult and debatable subject.

Elements of Water Bacteriology, with Special Reference to Sanitary Water Analysis.

By SAMUEL CATE PRESCOTT, Associate Professor of Industrial Microbiology in the Massachusetts Institute of Technology; and CHARLES EDWARD AMORY WINSLOW, Associate Professor of Biology, College of the City of New York, and Curator of Public Health American Museum of Natural History, New York. Third edition, rewritten. First Thousand. London: Chapman and Hall. 1913. Pp. 318. Price 7*s.* 6*d.* net.

DURING the ten years that have elapsed since the appearance of the first edition of this work water bacteriology, so far at least as it relates to examination for sanitary purposes, has undoubtedly advanced, and is on a much sounder, because broader, basis. Lapse of time, which has permitted the accumulation and comparison of large numbers of analyses, is chiefly responsible for this advance. The basis of sanitary water analysis is the correlation of analytical results with the known conditions affecting a water connected with its source, the geological formation from which it is derived, the chances of contamination, or the disasters produced by its use. That this correlation should be of value it is necessary that the analyses should be made by standard methods, and it was the lack of uniformity in this respect that proved the great stumbling block in the early days of bacteriological water examination. The standardisation of methods by the American Public Health Association and the subsequent adoption of a similar standard by English workers constituted a great advance; the standard methods advised form an appendix to this book. Unfortunately this uniformity has been disturbed by the recommendation of the American committee to replace the count of colonies at 20° C. by that at 37° C., a recommendation with which the authors do not agree. They express themselves strongly in favour of the current English practice of making determinations at both temperatures, and give data showing the valuable information which may be gained by contrasting the results so obtained.

Much new information has been incorporated in this edition on the natural history of bacteria in waters of varying purity and under various conditions of temperature and storage. Numerous methods also for the isolation and identification of various pathogenic germs have been elaborated and introduced with more or less successful results, but the essential methods employed in the routine analyses for sanitary purposes have remained very constant, and the changes have been chiefly in the deductions from the results necessitated by fuller knowledge rather than in alterations in the methods employed. The pivot of all sanitary water examination turns on the discovery and identification of B. coli, and a considerable portion of the book is occupied with the methods employed in its isolation and the interpretation to be placed on the number and variety to be found. These questions, especially as to the universality and variety of strains of B. coli, are considered in some detail, but not to the point of obscuring the practical conclusions which may be drawn as to the evidence of fæcal contamination from the presence of bacilli which can produce fermentation with gas production when growing in lactose bile broth at 37° C. The authors do not show that tendency "to set B. coli on a high throne and dance before it" which Professor Gartner deplores. In the United States it appears probable that all the members of the lactose fermenting group of bacilli are evidence of human or animal pollution. The significance of sewage streptococci and of B. enteritidis sporogenes is dealt with and the value and applicability of bacteriological examinations are discussed. Chapters on the bacteriology of sewage and on the examination of shell fish conclude the book. There is a very full bibliography.

This book, which is well printed on good paper, furnishes a very complete and well balanced account of bacteriological water analysis—a subject which has been not a little advanced by the original researches of the authors. To what beneficent results the right application of bacteriology to water analysis may lead we have a remarkable testimony in the condition of the water supply of London to-day, a subject dealt with in a leading article in our issue of Feb. 7th.

Text-book of Paleontology.

Edited by CHARLES R. EASTMAN, A.M., Ph.D., Professor of Paleontology in the University of Pittsburgh and Curator at the Carnegie Museum, Pittsburgh. Adapted from the German of KARL A. VON ZITTEL, late Professor of Geology and Paleontology in the University of Munich. Second edition, revised and enlarged by the editor in collaboration with a large number of specialists. Vol. I. With about 1600 illustrations. London: Macmillan and Co., Limited. 1913. Pp. 839. Price 25s. net.

THE "Grundzuge der Palæontologie," which forms the basis of the present work, was published in 1895. The American translator, Professor Eastman, instead of publishing a strictly literal translation, has modified it in important respects with the author's consent. When a second edition was called for, and in order that an adequate account might be incorporated of the new knowledge that has been gained in recent years, Professor Eastman invited a number of specialists, whose names are given, to collaborate with him in preparing a fresh treatment of the leading groups of invertebrates. The new work, therefore, is a composite production, yet it is in scope and style modelled after the well-known German original.

After defining the subject and its scope the author explains the relations of the subject to geology, physical geography, embryology, and phylogeny; he deals with 'life period' and the extinction of species.

The several phyla are treated in the following order: Protozoa, cœlenterata, vermes, echinodermata, molluscoidea, mollusca, and arthropoda. Naturally the sections on protozoa are short, and the longest chapter is devoted to the foraminifera and a shorter one to the radiolarians. From their constitution the cœlenterata necessarily bulk largely in palæontology, and to them nearly 100 pages are given. Beginning with the porifera, the intensely picturesque and interesting class of sponges is first considered, then the anthozoa and the great group of the corals, the alcyonarians and the graptolites. From their soft texture none are so poorly adapted for preservation in the fossil state as the worms, and therefore a few pages suffice for them. On the other hand, to the echinodermata, with their calcareous plates or calcareous bodies embedded in the integument and sometimes also in the walls of the internal organs—i.e., of the blastoidea, cystoidea, crinoidea, asteroidea, holothurideæ, and echinoidea—the four collaborators on this phylum devote over 170 pages. The phylum of the molluscoidea, including the bryozoa and the brachiopoda, requires over 100 pages for its elucidation, and of these pages to the brachiopoda alone—a very ancient group well represented in the Lower Cambrian and attaining their maximum development in the Silurian and Devonian rocks—nearly 70 pages are devoted none too much, seeing that upwards of 7000 fossil and recent species have been described. The mollusca—which have existed since the earliest recognised advent of life upon the globe—and their progressive modifications afford a most important guide to the successive stages of the evolution of organic life as preserved in the various geological horizons. Their treatment occupies more than a quarter of the whole text. To the arthropoda, including the crustacea, the marine and very ancient trilobites, the ostracoda, cirripedia and their allies the spiders, and the extinct representatives of limulus, myriapods, and insects about 130 pages are given.

This work is an admirable epitome of the palæontology of the invertebrates, excellently printed, and illustrated most lavishly. It should prove invaluable to students of extinct fossil forms and their relations to existing forms of invertebrate life.

LIBRARY TABLE.

Carbon Dioxide Snow. By J. HALL EDWARDS, L.R.C.P. Edin., F.R.S. Edin., Senior Officer in Charge of the X Ray Department, General Hospital, Birmingham. *London: Simpkin, Marshall, Hamilton, Kent and Co.* 1913. Pp. 78. Price 3*s.* 6*d.*—This is a very handy little volume, well written and well illustrated, and considering the popularity of carbon dioxide snow as a local application, one which will be appreciated by members of the profession. A good part of the work is taken up with describing various methods of preparing the snow for use, special attention being given to the one devised and used by the author, which appears to have many advantages. Methods of application and after-treatment are fully described, and in a special section the microscopic changes produced in the tissues are dealt with and illustrated by a series of microphotographs. The list of diseases in which this method of treatment has been found useful is a long one, and full details are given as to the proper method of application in each of them. The book can be cordially recommended.

The Pocket Anatomy. Seventh edition, revised and edited by C. H. FAGGE, M.B., M.S.Lond., F.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1914. Pp. 307. Price 3*s.* 6*d.* net.—This useful review manual, the successor of the one-time "Pocket Gray," has been brought up into line with the fourth edition of Cunningham's Text-book of Anatomy, revised by Professor Arthur Robinson. As we said in reviewing the previous edition it is, if properly used, an extremely useful little book. It is pointed out in the preface that the chief innovation in the present edition is the inclusion of those terms from the Basle nomenclature which either have come, or appear to the editor likely to come, into general use.

Genera of British Plants Arranged According to Engler's Syllabus der Pflanzenfamilien (seventh edition, 1912). With the Addition of the Characters of the Genera. By HUMPHREY G. CARTER, M.B., Ch.B. Edin. Cambridge: University Press. 1913. Pp. 121. Price 4*s.* net.—The author, considering that there can be little if any doubt that no other published system of classification of plants rivals Professor Engler's in broad grasp of principle and thorough treatment of complicated detail, notwithstanding that it may be criticised in different points by different specialists, and that the existing lacunæ in our knowledge of different groups leave us far from finality, has compiled this little book to familiarise students of British plants with Engler's system. He has, however, exercised some eclecticism, modifying nomenclature here with a view to secure uniformity of terminations, and adopting other groupings there, as being more rational. The book will prove interesting and useful to students of systematic botany.

MISCELLANEOUS VOLUMES.

IN this section History and Ethics claim our attention with books by Dr. T. J. Walker, August Strindberg, Ethel Snowden, and Sir William Osler.

"That it may please Thee to shew Thy pity upon all prisoners and captives" are words which even now have lost none of their pathos and appeal. The lot of the prisoner is always hard, although it is now in most cases luxury compared to that which prisoners endured when the above-quoted words were written and for some 300 years later. In the year 1814, after the abdication of Napoleon, there were in Britain 67,000 French prisoners, distributed mainly at Dartmoor, Perth, Portsmouth, and Norman Cross, and it is the last-named "depôt" and the life therein which Dr. THOMAS JAMES WALKER describes in his interesting work, *The Depôt for Prisoners of War at Norman Cross, Huntingdonshire, 1796 to 1816.* (London: Constable and Co., Limited. 1913. Pp. 351. Price 10*s.* 6*d.* net.) Both British and French charged each other with ill-treating their respective prisoners, but, as Dr. Walker points out, the practice of the two Governments as regards their own prisoners differed. The British supplied British prisoners in France with clothing, while the French Government absolutely refused to do the same for their countrymen in British prisons. The charges of ill treatment were certainly exaggerated. O'Brien, in Marryat's "Peter Simple," expressed the opinion that "when a man has been cramped up on board a man-of-war, where midshipmen are stowed away like pilchards in a cask, he finds himself quite at liberty in a prison." At Verdun, according to Dr. Walker, the officers seem to have enjoyed a certain liberty, but the common sailors and soldiers were by no means well treated. They were allowed by the French Government only ¾*d.* a day for food, though this pittance was apparently in addition to "a small square piece of bullock's liver, a slice of black bread, and a glass of new brandy." Marryat implies that at Givet the conditions were much more severe than at Verdun, but even so his characters do not complain of real hardships. At Norman Cross the diet seems to have been good if monotonous. With slight variations it consisted of 1 quart of beer, ¾ lb. of beef, 1½ lb. of bread, together with peas or greens on alternate days, and on Saturdays cheese and butter. On Wednesdays and Fridays fish might be substituted for meat. The miseries which certain prisoners undoubtedly endured were due to their gambling away their rations, clothing, and bedding. The most depraved among the prisoners formed a class by themselves, known as Les Misérables. A similar class, known as the Romans, was later evolved at Dartmoor, of whom Dr. Walker quotes the terrible account given by Mr. Basil Thompson in his "Story of Dartmoor Prison." Many of the prisoners occupied themselves in work of a really artistic kind, and Dr. Walker describes and illustrates beautiful articles, such as work-boxes decorated with straw marqueterie or strips of paper, and carvings in bone. The model of the theatre, an illustration of which appears at p. 130, is very elaborate. Many of these works are now in the Peterborough Museum. In addition to the interesting account of the prison life, the book contains valuable appendices dealing with the prison at Verdun, parliamentary papers relating to French prisoners in Britain, and a correspondence concerning the Bishop, or Bishop-designate, of Moulins, who, having been expelled from France, ministered to the prisoners and was allowed by the British Government £240 per annum.——The title *Historical Miniatures* well expresses the scope of AUGUST STRINDBERG's book (London: George Allen and Co. 1913. Pp. 362. Price 5*s.* net), which Mr. CLAUD FIELD has well translated. Strindberg takes a series of historical events, such as the finding of Moses, the deaths of Socrates and Virgil, the flight into Egypt of the Blessed Virgin with the child Christ and St. Joseph, the defeat and death of Roderick the last Gothic King of Spain, the deaths of Nero, Julian, and Attila, of Henry VIII. and Louis XI., to mention only a few, and an episode in the life of Peter the Great. They make interesting reading even if they are not historically accurate, as in one instance is certainly the case. That instance is where Strindberg makes Virgil have a conversation with Horace at the latter's Sabine farm a few days before his death, which Strindberg says occurred at Naples. Now Virgil died at Brundisium within a few days of his landing there on his return from Athens. The most vivid account in the book is the sketch of Peter the Great and the condemnation to death of his son Alexis.

In *The Feminist Movement* (London and Glasgow: Collins' Clear Type Press. Pp. 262. Price 1*s.*) Mrs. Philip Snowden has given us a clear statement of the position of women workers in the society of to-day. Her volume will serve as a simple introduction to a subject which is at the present time so constantly brought to the attention of all those interested in social matters, for it shows plainly the need that is felt by the large number of women engaged in all forms of professions and employment for equality with men "in all those matters of their common humanity where sex does not enter and impose an impassable barrier." She also gives a *résumé* of the methods that have been used by feminists for a century or more to try to bring the attention of the general public to bear on this need. Incidentally Mrs. Snowden points out that a feminist is not of necessity also a suffragist, and that there are many who, while devoting much thought and work to the cause of oppressed women, still do not consider that she will be materially benefited by the grant of a political vote. She insists upon the illogical nature of the methods which have been, and are still being, employed to frustrate the endeavours of women to enter certain professions, and in addition points out that in many instances the law gives an unfair advantage to men as against women, but she omits to mention that by law a man is responsible for the torts of his wife. On the whole, the book gives a fair presentment of the case from the point of view of the feminist.

In his address to Yale students, now published with the title of *A Way of Life* (London: Constable and Co., Limited. 1913. Pp. 62. Price 1*s.* net), Sir WILLIAM OSLER gives us another of those demonstrations in applied philosophy, which on previous occasions have marked him out as a skilled craftsman in moral mechanics. As the master word in medicine for him is work, so the way of life is for him equally simple. It consists in "the practice of living for the day only and for the day's work—life in day-tight compartments"; not, however, in the hedonistic spirit, but because the day of a man's salvation is *now*, and he should "live it earnestly, intently, neither dwelling on the pains or the joys of the past nor anticipating those of the future Keep the body fit—thus helping to keep the mind pure—he says, and avoid slackness by "control of the two principal instincts—biologic habits—the one concerned with the preservation of the individual, the other with the continuance of the species" To this he adds Christ's advice to Nicodemus 'Ye must be born of the spirit," which he interprets as becoming initiated into the fraternity of the great souls that make up the moral radium of the world *A Way of Life* is a good prescription from a wise physician for the health of man's body, spirit, and soul

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JOURNALS AND MAGAZINES

The Journal of Physiology Edited by J N LANGLEY, Sc D , F R S Vol XLVII , Nos 4 and 5, December, 1913 Cambridge University Press Price 8s —Some Factors which Determine the Blood-flow through the Coronary Circulation, by Josef Markwalder and Ernest H Starling The authors after considering the various methods hitherto used, adopted that of Morawitz, but they used the now well-known "heart lung preparation" obtained from the dog, and they found that Morawitz's method of catheterising the coronary sinus could be applied with ease to this preparation They find that the blood which can be collected in this way amounts to about three fifths of the total blood flowing through the heart wall Moreover, the coronary circulation is intimately dependent on the arterial pressure As to chemical factors, they find that adrenalin causes dilatation of the coronary vessels, a statement made also by previous investigators The addition of CO_2 to the circulating blood so as to increase the CO_2 tension *causes dilatation of the coronary vessels associated* with dilatation of the heart Still more marked than the influence of CO_2 is the effect produced by the total products—i e , metabolites—which accumulate in the blood during asphyxia The authors conclude that the most potent agents which cause dilatation of the coronary vessels are the non volatile metabolites produced by the heart muscle According to the authors, by this means a local mechanism is supplied by which the heart muscle will increase the circulation through itself whenever increased demands are made on its functional activity In asphyxia the circulation through the heart is at its maximum just before the heart fails altogether —Experiments on the Pulmonary Circulation, by H Fühner and E H Starling The heart lung preparation obtained from the dog was used, and the heart volume was recorded by a simple volume recorder already used by Starling and his pupils We have not space in which to describe the technical details but the results obtained show that with a pressure of 80-100 mm Hg in the aorta the pressure in the pulmonary artery of the dog is 14 mm Hg, while at the same time the pressure in the left auricle and in the vena cava inferior is about 7 cm *water* On an average the pulmonary arterial pressure stands to the systemic arterial pressure as 1 6 In asphyxia the failing heart dilates, and the output of the left ventricle gradually diminishes, with a consequent fall in the aortic pressure At the same time the pressure in the pulmonary artery, vena cava, and left auricle rises When the right heart also fails the pressure in the pulmonary artery falls to that in the pulmonary vein and vena cava Adrenalin causes diminished volume of the heart and raises the pressure in the pulmonary artery with a simultaneous fall of pressure in the left auricle These effects on the pulmonary circulation the authors conclude, must be due to a contraction of the lung vessels, since even on the isolated lung perfused with an artificial circulation, adrenalin produces a rise of pressure in the pulmonary artery —Heat Production in Prolonged Contraction of an Isolated Frog's Muscle, by A V Hill This paper is divided into three parts, and is a continuation of the author's already well known researches on muscular heat if such a term is admissible The well known thermopile of Heidenhain is replaced by the author's conical thermophile, which eliminates very largely the errors due to slipping over the junctions The heat production, it appears, is determined by, and is proportional to the length of the fibres during activity Those who are interested in this problem will see the bearing of this question in relation to isotonic and isometric contractions —The Auto Catalysis of Trypsinogen, by H M Vernon, and the Ferments of the Pancreas Part III The Properties of Trypsin, Trypsinogen, and Enterokinase by John Mellanby and V J. Wooley These two papers deal with very complex questions Vernon maintains that recently activated juice may have considerably more activating power than enterokinase itself on the trypsinogen of inactive juice, and he finds that recently activated juice is exceedingly unstable As the summary and conclusions of the second paper occupy nearly two pages, we must refer the reader to the original paper —Lactic Acid Formation, Survival Respiration, and Rigor Mortis in Mammalian Muscle, by W M Fletcher This is a communication of much interest to physiologists, because the author has taken care in estimating the lactic acid formation after excision to discriminate between the white (pale) and red muscles of a limb A red muscle (soleus) shows a much slower rate of survival acid production than the white muscle —The Sugar Consumption in the Surviving Normal and Diabetic Heart by E W H Cruickshank and S W Patterson Cats were used Depancreatised cats became completely diabetic, and they lived for not more than two or three days after complete extirpation of the pancreas Amongst other statements we find "that there may be a diminution in the power c [illegible] " —Studies on Pellagra [illegible] of Maize on the Chemical ([illegible] of Maize meal, by Casimir Funk The author concludes that in maize the localisation of vitamines is closely analogous to that of rice, and it would seem that the vitamines are distributed in the external layers of the grain The influence of diet on growth normal and malignant, in relation to vitamines formed the subject of a paper by the same author published in THE LANCET of Jan 10th, p 98 —The Influence of CO_2 on the Heart in Varying Degrees of Anæsthesia, by E P Cathcart and G H Clark The authors are carrying on a further series of experiments, but as regards the practical aspects of their work they assert that it certainly gives support to the contention that if anæsthesia is to be carried out with any degree of safety it must be deep

The Journal of the East Africa and Uganda Natural History Society (London Longmans Green, and Co Price to non members 5s 4d) —The December issue contains several articles of much interest, especially the one with which the journal opens It is by Mr R B Woosnam, F Z S , game warden for British East Africa, and discusses the question of the Relation of Game Animals to Disease in Africa The writer's conclusion is that there is at present not sufficient scientific evidence to justify the extermination of game as a means of clearing a district of diseases transmitted by blood sucking insects He asks "If wild animals can acquire an immunity in nature and domestic cattle can also acquire immunity, is it not possible that the greatest success may eventually result from an artificially produced immunity? The question has been recently debated in our columns by Professor J L Todd, who opened the discussion (THE LANCET, Nov 22nd 1913, p 1504), Dr Geoffrey D H Carpenter Dr Warrington Yorke, and others —Mr E Wynstone Waters F R S Edin , continues his description of the Organic Cell —Other papers are The Tribes of Tana Valley by Miss A Werner, and the Scientific Classification of Some of the Sea Fishes at Mombasa by Mr R J Cuningham F Z S In a brief note by Mr C M Hobley C M G the editor of the journal, reference is made to the eating of considerable quantities of a soft, grey aluminous rock a kind of steatite imported from India, by Indians and others resident in Mombasa The note has some bibliographical references on the subject of geophagia

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THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC —A public appeal for funds in aid of this institution has been made by Mr James Cantlie in the *Times* The good work done at 22 Chenies street, W C , is familiar to most medical practitioners in and around London, and it would be a public misfortune if this institution which was founded and generously supported by the late Sir Jonathan Hutchinson, should come to a standstill through lack of money The sum urgently needed at the moment is we understand, £5000 and of this £2000 have been advanced by medical men Subscriptions may be sent to Mr Cantlie at 140 Harley street, London, W

BARTHOLOMEW MOSSE AND THE ROTUNDA HOSPITAL.

THE Hôtel Dieu of Paris had a maternity department as far back as the thirteenth century, but it was not until the middle of the eighteenth century that the earliest of these institutions in the British Isles took its rise in the keen sympathy of a medical practitioner with the miseries of the poor. Bartholomew Mosse was the son of an Irish clergyman, the rector of Maryborough, Co. Down, and was born in 1712. After serving his apprenticeship with John Stone, surgeon, of Dublin, he was released from his indentures with a satisfactory certificate in 1733, and at the same time was pronounced "well qualified to practise the art of surgery" after a personal examination by the Surgeon-General, John Nichols. He took medical charge of troops going to Minorca in 1738. He then travelled in "England, France, and Holland, and several other parts of Europe," to perfect himself in surgery and midwifery. Returning to Dublin in 1742 he was admitted a Licentiate of the King and Queen's College of Physicians. On establishing himself in the practice of midwifery, his attention was drawn to the condition of the poorest class of lying-in women, exposed in garrets to cold or in cellars to damp, without attendance, medicine, or even food. The Dublin hospitals had no accommodation for lying-in patients at that time, nor, indeed, had any hospital in the British Isles, for the newly founded Middlesex Hospital did not start its lying-in wards—whence sprang the London Maternity Hospital, now the British Lying-in Hospital—until 1747. Mosse therefore felt that a new kind of hospital devoted to caring for poor women during parturition was needed, and at once set about obtaining the necessary funds to establish such an institution. On Friday, March 15th, 1745, he was enabled to open "an Hospital for Poor Lying-in Women in George's Lane, facing Fade Street," to which the first patient was admitted that very evening. It was a three-storied house of considerable size, containing four beds on each floor, and having an adjoining outbuilding in which were one large and two small wards.

The real difficulty, however, was to find means of adequate support. Mosse faced this by producing plays and oratorios, taking tickets in lotteries, and other entertainments to supplement private benefactions. In this he succeeded, and the new institution, in spite of much opposition and many difficulties, pecuniary and other, justified itself by its results. Mosse was thus emboldened to take the first step towards a more spacious and ambitious scheme, which might well have dismayed anyone with less force of character and perseverance. In August, 1748, he took upon himself the responsibility of a lease for three generations of four acres and one rood of land on the north side of Great Britain-street, whereon to erect a lying-in hospital for at least 150 patients. He first laid out the grounds as public gardens, after the model of the Vauxhall Gardens, London, upon which he expended some £2000 of his own money, walling-in the grounds, erecting an orchestra, concert room, and coffee room, and planting trees and shrubs. Here he organised a series of entertainments with a view to producing a yearly income for the benefit of his charity. His expectations were not disappointed, and in fact to this day the hospital still draws a considerable income from the entertainment rooms and pleasure grounds established by him.

The foundation-stone of the new hospital was laid on July 9th, 1751. In December, 1756, a Royal Charter was granted. Mosse was appointed Master for life, and shortly afterwards a parliamentary grant of £6000 was paid over to the governors, less £180 deducted at the treasury in certain imposts.

Nearly a year later a committee of the Irish House of Commons gave a further grant of £6000 for the completion of the hospital, and a benefaction of £2000 to "Bartholomew Mosse, Master of the said Hospital, as a reward for his great Care and Diligence in Attending the Lying-in Hospital in *George's-Lane*, thirteen years, and superintending the new Hospital in *Great Britain-Street* nine years and a half, by which he hath greatly injured himself in his profession, and hurt his Family in their Circumstances, having never received any reward." Thus, after the overcoming of stupendous difficulties the New Hospital, from designs by the great contemporary architect, Richard Castle, was opened on Dec. 8th, 1757, 12½ years after the establishment, as a private venture, of the original hospital in George's-lane. At the time of the transfer from the old to the new hospital Mosse was able to report that 3975 women had been delivered in the old hospital, with a maternal mortality of 1·10 per cent., "mostly of fever several days after they were safely delivered," at a total cost of £3913 13*s.* 0¾*d.*

Mosse's tenure of office in the new establishment was brief, for he died on Feb. 16th, 1759, in the forty-seventh year of his age, and 13 years and 11 months from the opening of the old hospital in George's-lane, and was succeeded in the mastership by Dr. (later Sir Fielding) Ould.

In Mosse's will he is described as a "Doctor in Physic," and elsewhere as M.D., but no evidence is forthcoming to show where he graduated. His name does not appear on the rolls of any Irish, English, or Scotch University, or on those of Leyden, where so many men of his age took their degree.

In a recent work[1] by Dr. T. Percy C. Kirkpatrick and Dr. Henry Jellett, the present Master of the hospital, from which most of the foregoing information is taken, it is stated: "We find no trace of self-seeking in any of the work done by Mosse. His hospital was everything, and though he claimed honour as its founder, it was only through it and its success that he made any such claim. There is no evidence that he ever used the hospital for his own advantage, either in the way of making money by it, or to advance his professional reputation. Indeed, for the hospital he seems to have sacrificed his entire income and to have abandoned any hope of rising to professional eminence." But little evidence is forthcoming as to his private life, but such as there is seems to proclaim him a good husband and father and a generous friend.

The further history of the hospital and its vicissitudes is recorded at length in Dr. Kirkpatrick's handsome book. Reference, however, may be made here to one particular period in the "sixties," when owing probably to the progressive mortality from puerperal fever, which occurred *pari passu* with the septicæmic condition of surgical wards in hospitals everywhere, there was a marked diminution in the number of patients cared for, which fell to 9181 during the mastership of Dr. McClintock (1854-61), as against 13,741 in the preceding seven years, though the mortality-rate was higher. Under Denham (1861-68) it fell still lower, to 7786. It was at this point that the general outcry against hospitalism reached its culmination, when there were many, as our own columns during that period testify, who questioned whether large hospitals in general, and lying-in hospitals in particular, ought not to be abolished, and Dr. Evory Kennedy, a former Master, in a letter to the board of governors, dated Oct. 28th, 1867, urged "that the time has arrived in which, like all human institutions, progress and changing circumstances have produced such an influence upon it that neither the intentions of the founder, the wants and just rights of the public, nor the claims of humanity, by securing the greatest preservation of life, are accomplished by its instrumentality."

Kennedy's suggestions were negatived, but in the following year he read a paper before the Dublin Obstetrical Society, in which he opened up the whole subject of the hospital treatment of lying-in women. After a discussion lasting 11 nights, while Kennedy's figures for maternal mortality in large and small maternities respectively were not discredited, his suggestions for the abolition of the hospital were not received—fortunately, as it proved, for the sun of Lister's work was rising, and as it became elevated in the heavens it gained power to dissipate the mists that obscured the true significance of the phenomena. Never was the beneficence of hospitals, and particularly of lying-in hospitals, more clearly apprehended than it is at the present day.

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[1] The Book of the Rotunda Hospital. An illustrated history of the Dublin Lying-in Hospital from its foundation in 1745 to the present time. By T. Percy C. Kirkpatrick, M.D., M.R.I.A., Fellow and Registrar of the Royal College of Physicians of Ireland. Edited by Henry Jellett, M.D., F.R.C.P.I., Master of the Hospital. London: Adlard and Co. 1913. Pp. 222. Price, in various bindings, 16s., 18s., 30s., and 32s. The proceeds of the sale will be devoted to the funds of the hospital.

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LONDON: SATURDAY, FEBRUARY 14, 1914.

The Working of the National Insurance Act.

WE publish this week in another column an important memorandum dealing with the case of those persons who desire to make their own arrangements, under *Section 15 (3) of the National* Insurance Act of 1911, with a view to the receipt of medical benefit. The members of the insured public who fall under this category are sharply divided into two classes—those who desire not to select a medical practitioner on the panel, but to make a private contract with a medical man; and those who desire to employ the services of unqualified or unregistered persons. The memorandum takes note with shrewdness and knowledge of the real position, and of the fact that an almost negligible number of persons wish to obtain so-called medical benefit through the administration of persons who are not medical men, and it seems to us unlikely that Insurance Committees will be willing to allow this danger to spread. We trust that our readers will keep a right medical view of affairs steadily before all such members of the public as by their position upon various Insurance Committees are likely to give practical assistance.

It seems to us particularly important that at the present juncture medical men should take every reasonable opportunity of explaining to intelligent laymen the difficulties in which the medical profession has been placed by the extension of contract service, as there is too prevalent a belief that the increase in income, which some practitioners on the panels are receiving, is a panacea for all the ills that they, as well as other practitioners, are experiencing. The situation of the medical profession is distinctly an anxious one in relation to public affairs. We may be certain that it could be paralleled by comparison with that which has obtained at other epochs, for in the nature of things every alteration in the position of the medical practitioner, when it has followed upon new legislation, has been an experiment performed by those who did not know. There is not a series of mysteries involved in our professional life, but it is a life that has to be led before its objective and its social relations, its pleasures and its pains, can be fully understood. The representation of the medical profession in Parliament has always been very small, and when medical members have possessed any hold over the reason of the assembly they have generally owed allegiance to a party, causing their testimony to medicine to be received with reservation; and it is difficult to see how anything else can be expected. Laws which modify the circumstances in which the benefits of medicine are distributed to the community might be more agreeable to the medical profession if they were made from the beginning by medical men, but it is certain that, if by any combination of events such laws were passed, they would be subjected later to great modification, allowing that they were criticised only with justice from the public point of view. The probability is that a fairer general measure in all political departures would, as a rule, be arrived at from the beginning by a Parliament representing general opinion. But the difficulty is that any amendments found necessary by the particular branch of the *public chiefly affected* must be hard to come by, as the onus of proving the need for further legislation would be upon a section of the community with business interests to serve and with only a comparatively small voting strength. Medical men are not here the only class alluded to, but they are the class most likely to suffer from ill-informed law-making because their calling is so delicate a combination of art, business, and philanthropy. Therefore, while they possess no more claim than any other class to frame laws for the community, it is in their case particularly necessary, before legislators attempt to solve problems with the implied assistance of the medical profession, that no endeavours should be spared towards ascertaining what are medical opinions, why they are held, and what is their equitable and logical strength. This precaution was notably absent from the preliminary stages of the National Insurance Bill, and it behoves all medical men to see, when any revision of the existing arrangements comes under the consideration of Parliament, that the medical view is adequately and temperately expressed.

A warning note has been sounded in the *British Medical Journal* to the effect that if the present system of administering medical benefits is found to threaten the financial stability of the Approved Societies new arrangements will have to be made by the Commissioners with the medical profession. The suggestion is, of course, that less money will be paid to practitioners on the panel, a danger ahead which has been already alluded to in these columns. If the Approved Societies obtain the administration of medical benefits, on the plea that only in this way can insurance of the nation against the results of sickness be economically carried on, there will be a return to conditions which have been demonstrated over and over again to be entirely unsatisfactory, and sometimes humiliating to the medical profession. We are drawing attention a long way ahead to a difficulty that is only possible and may not arise, but it is well to be forearmed. The financial standing of some of the Approved Societies will be better known in a little time, while it must be remembered that there is no need for them to hoard the contributions which they receive year by year as stewards. Their members would regard with equanimity the fact that the available money was spent on providing the best form of medical benefits obtainable, and are not likely to support the secretaries and treasurers in any scheme for securing these benefits on the cheap. But it is the officers of the Approved Societies who will be the spokesmen, and the medical profession may find that considerable pressure is being put upon them to return to their former position of service under those officers.

Declining Death-rates.

AMONG the questions raised on the recent publication of the Annual Report of the Medical Officer of the Local Government Board for 1912–13, already reviewed in our columns,[1] that of declining death-rates in England and Wales has received special public attention. In the year 1912 the death-rate in England and Wales from all causes was as low as 13·3 per 1000, the lowest rate yet recorded, a decline of no less than 27 per cent. when compared with the mean yearly rate of a period as recent as 1891–1900. This decline, though perhaps more conspicuous in respect of the mortality of infants and the deaths from certain infectious diseases, has not been limited to these groups; speaking broadly, it may be said that the recent rates of general mortality indicate both an increasing prolongation of life into old age and a greater degree of escape from death throughout all the stages of youth, adolescence, and middle age. Mortality rates, of course, are not necessarily indicative of national healthiness or of the extent to which particular forms of illness are prevalent. With appendicitis, for example, if common indications are to be believed, there has been for some time past an actual and considerable increase in prevalence after all allowance has been made for better diagnosis and for the different names under which this affection was formerly described. The simultaneous development of successful surgical treatment, however, prevents the official mortality returns from giving any real clue to the extent to which the disease prevails or from showing how fast it is increasing. Or, to take another illustration, we might refer to the large amount of temporary invalidism that is apparently being caused at the present time by sudden attacks of "gastric" illness attributed to the infection of influenza. As in the case of appendicitis, the examination of mortality figures does not help towards general or local investigation of the prevalence or causation of a widespread illness of this nature. While, however, the distinction between reduction of mortality and decline in sickness is an obvious one and needs to be remembered, it is difficult not to believe that the general fall in mortality as a whole connotes diminishing invalidity and increased healthiness. In the case of infants and children the association is particularly close, and the considerable fall in the death-rates at young ages in recent years is no doubt to be connected with the greater consideration now given to the individual life, with the early detection and treatment of ailments which in former years would have been neglected until they became formidable, and in large measure also with the greater healthiness which has resulted from the improved conditions of nurture and environment of children.

As said above, the mortality figures for most of the infectious diseases in 1912 show striking reductions when compared with the average experience of 1891-1900. The decline in the case of measles is 16 per cent.; from scarlet fever 66 per cent.; from whooping-cough 40 per cent.; from diphtheria and croup 57 per cent.; and from enteric fever 75 per cent. The mortality from typhus is now practically nothing, and in the absence of any considerable epidemic of small-pox the death-rate from that disease is at present negligible. The chief causes which have led to these reductions are not identical in the case of each disease. Those who have special experience of diphtheria, we believe, would ascribe the fall rather to the curative power and increased use of antitoxin than to any decrease in its prevalence or change in its intrinsic severity. The fall in the scarlet fever rate is held to be attributable only in a minor degree to improved treatment or to lessened prevalence, and is set down to a distinct change in its clinical character, associated with a much milder type than that met with 20 or 30 years ago. By contrast the great reduction of enteric fever mortality is undoubtedly due to a definitely lessened prevalence, which has followed the purification of public water-supplies, prevention of food contamination, and other sanitary measures. Nevertheless, it seems possible that in some at least of the infectious diseases common factors may be steadily at work to diminish virulence, including possibly the much greater intercommunication of the present day which may promote the spread of mild or unrecognisable infections which confer some degree of immunity.

In the case of tuberculosis the mortality from all forms in 1912 is 32 per cent. less, and from pulmonary tuberculosis 25 per cent. less than the average rate for 1891–1900. In respect of phthisis the fall continues the steady decline which has been taking place since 1853, and has increased in its rate of fall since 1867, when the deaths ascribed to phthisis were relatively more than twice as many as they are now. The decrease which has set in during the last six or seven years in tuberculous diseases other than phthisis is noteworthy, as previously these rates tended to be stationary. Notwithstanding the immense amount of study which has been given to this disease, it is almost impossible to assign values to the different causes which have led to the steady and continuous decline in the mortality from tuberculosis. The effects of migration, "urbanisation," exposure to infection, race, and heredity, the relation of human and bovine tuberculosis, and the possible acquisition of immunity by infection in early life are a few among the considerations to be taken into account. Readers of our issue of Jan. 31st will have noted in Dr. W. CECIL BOSANQUET'S lecture on "Tuberculosis as an Infective Disease," evidence both of the difficulties of the problem and of the helpfulness of the conspectus of the present position which is there given. It would probably be difficult to exaggerate the importance of the part played by changes in the social condition of the population of this country during the past 40 or 50 years, including alterations in housing and diet, in reducing the prevalence and fatality of tuberculosis. In the latter part of this period also the increase of medical knowledge and the improvements made in treatment must have had a great effect in the same direction. Although many years have elapsed since sanitarians began to press for more light and air about dwellings and the prevention of atmospheric impurity, it is not so long since current medical treatment of consumptive patients still permitted the respirator, the shut bedroom, and other devices which are now regarded as disastrous. A further acceleration of the rate of decline in tuberculosis mortality by the preventive and curative measures which the public authorities have now begun so energetically to undertake is one of the most hopeful prospects of medical science, and the fact that there are still over 35,000 deaths annually from phthisis alone in England and Wales is enough to show what remains to be achieved.

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[1] THE LANCET, Jan. 31st (p. 339) and Feb. 7th (p. 408), 1914.

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The Notification of Ophthalmia Neonatorum.

THE Local Government Board, by an Order issued at the end of last week, has made ophthalmia neonatorum a notifiable disease. Heretofore notification of this disease has only been compulsory in those administrative areas in which the Local Government Board had sanctioned the procedure. In the year 1912 there were 216 sanitary districts which had availed themselves of this opportunity, and during last year this number was considerably augmented. Since March, 1911, by an Order extending the provisions of Section 55 of the Public Health (London) Act the notification of ophthalmia neonatorum by medical practitioners and midwives has been made compulsory, and during that year 673 cases were notified, a number which represents an incidence of 0·843 per 100 births. During the year 1912 approximately 700 cases were notified in London, and of these 5 cases resulted in complete blindness in one or both eyes. At the meeting of the British Medical Association held in London in 1910 one of the subjects for discussion was the administrative control of ophthalmia neonatorum, and in opening this discussion Dr. GEORGE REID, the medical officer of health of the county of Staffordshire, made out a very strong case for the compulsory notification of the disease and for its free treatment at the public expense. He claimed that the cost of educating a blind child was approximately £500, while the cost of educating a child who had ordinary vision was no more than £50. As the cost of education usually fell on the public authority, it was clear from the number of cases of blindness which annually resulted from the disease that there would be a handsome offset to the expenditure incurred by prophylaxis and treatment if any cases of blindness were thereby prevented.

The experience of London, Liverpool, and Staffordshire prove that the incidence of blindness is very small if cases of ophthalmia neonatorum are taken in hand sufficiently early and are treated in accordance with approved methods. Whether prophylaxis should go the length of instilling a drop of protargol solution into the eye of every new-born infant is a question which still vexes the minds of some authorities, but there can be no doubt that all cases of ophthalmia with a purulent discharge should be treated drastically under medical supervision from the start. It has been calculated that the average cost of treating such cases in Staffordshire—a cost which includes in many cases the long-continued services of fully trained nurses—is about £3 1s. 6*d*.

The action which the Local Government Board has taken in making this serious infective disease compulsorily notifiable in every sanitary district in England and Wales will be strongly commended by all public health authorities, and it is particularly gratifying that the definition of the complaint—namely, as "ophthalmia with a purulent discharge from the eyes of an infant commencing within 21 days from the date of its birth"—leaves no loophole for prevarication or evasion in those cases in which the bacillus of Neisser has not been, or cannot be, demonstrated by bacteriological methods. Although probably the consequences are not serious, there can be no doubt that pathological admissions, such as that which the notification of ophthalmia neonatorum would entail, must be somewhat hard to come by, if such admissions in any way serve as *primâ facie* evidence of unskilful practice. Such cases have, however, been known to occur, the responsible parties sheltering themselves under the plea that the discharge from the eyes, though purulent, was not due to the gonococcus.

The Royal Commission on Venereal Disease which is now sitting will certainly have to pronounce on the advisability or the reverse of the compulsory notification of syphilis and gonorrhœa, and more than one of the Government departments has already been memorialised to include both diseases among the number of those notifiable. The argument that the compulsory notification of venereal disease might defeat its own purpose by delaying or interfering with medical treatment through the fear of disclosure of the nature of the complaint may or may not be sound, but it seems that in the compulsory notification of ophthalmia neonatorum we have a most effective means of acquiring a knowledge of the incidence of at least one of these diseases without any of the objections to which the direct notification of the responsible parties might possibly conduce.

Annotations.

"Ne quid nimis."

THE UNIVERSITY OF LONDON.

THE Departmental Committee on the University of London, appointed to recommend, after consultation with the bodies and persons concerned, the specific arrangements and provisions which may be immediately adopted in order that effect may be given to the scheme of the Report of the Royal Commission on University Education in London, have now resumed their sittings. The committee have invited the observations of the Senate upon the proposals of the recent Royal Commission with regard to the admission of external students to the examinations of the University for degrees, regard being had to the principles upon which the report is based. The committee would also be glad to receive not later than March 14th reasoned statements bearing upon these proposals from other bodies and persons concerned.

MEDICINE AND POLITICS IN ITALY.

"TO-DAY the extension of the suffrage," writes an Italian correspondent, "has enlarged the electorate from about 3,000,000 to 8,000,000, and of these latter a large proportion are analfabeti, that is, can neither read nor write. There are questions before the country of even greater urgency than the riveting of Italy's foothold on the Southern Mediterranean seaboard, and these are education and, in closest connexion with it, the public health. That so large a proportion of the electors should be 'analfabeti' is a reproach to Italy and her legislators which cannot be too soon wiped out—a state of things appealing more sensibly to her *amour propre* than colonial extension or even military prestige. Not less urgent and not less vital for her rehabilitation and self-respect is the improvement of her hygiene, a necessity now more than ever borne in upon her, and explaining not only the large proportion of medical men among the candidates at the late elections, but the recent accession of distinguished consultants to her Upper Chamber. The Italian Senate, indeed, stands pre-eminent throughout Christendom for the number of physicians and surgeons it can boast of—men who, while professional men devoted to their calling, have not forgotten that they are also citizens, citizens, moreover, of a nationality comparatively new in the State system of Europe. Numerous as they already were in the Senate, the Premier has added, as your Italian correspondent has already reported, still more to their strength, and in the 29 new nominations has made three who are, each of them, eminent in medical practice and research. Dr. Ettore Marchiafava, whose name occurred so frequently in the consultations held during the Pope's grave illness last spring, is one of these, and not only the profession but the public at large are at one in recognising the justice of his promotion to a legislature before which the question of medical education and, with it, those of scientific research and hygiene, press forward for consideration and solution. His record as professor of comparative anatomy at the Sapienza as well as his intervention in the crusade against malaria are of themselves a "title-deed" to the honour just conferred on him. The second on the list, Dr. Carlo Forlanini, has an equally valid claim to the distinction of Senator. Born some 66 years ago at Milan, and professor of physiology and clinical medicine at the Lombard University (Pavia), he has won an authoritative position in the domain of public health, particularly in the legislation against tuberculosis, while his clinique has been frequented by students from other seats of learning for his special mode of dealing with pneumothorax described some three years ago in THE LANCET. The third consultant now promoted to the Upper Chamber is Dr. Gerolamo Gatti, who holds with much acceptance the chair of surgical pathology in the Florentine Institute, and, while devoted to clinical research and professional teaching, has found time to study social questions, particularly those relating to the condition, moral and physical, of the agricultural labourer. A convinced Socialist, though not enrolled in any of its numerous sects—being, indeed, a trenchant critic of the Marxist dogma and practice—he is a representative of the interests of the *democrazia rurale*, beginning with the physical development of the children and directing, *ad hoc*, the Hospital for Surgical Pædiatry in Florence. Younger than the majority of his professional brethren in the Senate, he adds to their experience an energy all his own and will contribute effectively to the consummation of that policy, known as socio-medical, which is destined for many years to form an important factor in Italy's legislation."

MODERN LEPROSY.

SANITARY authorities in various parts of Europe are now occupying themselves in trying to check the spread of leprosy, recently believed to be almost extinct. The incidence of the disease is increasing surely though slowly and precautions can no longer be neglected. In France especially, as appears in our Paris correspondent's letter (p. 491), considerable disquietude prevails, and legislation in the matter is being invoked. A curious study containing certain considerations, interesting at least as hypotheses, has been recently published by Dr. Blendeau, who holds that the disease had existed in Europe before the Crusades, but had become attenuated by a sort of racial vaccination. In Palestine the Crusaders came into contact with another variety of the same microbe, for which they afforded an entirely new culture medium. This was the grand leprosy of the Middle Ages, brought back by the Crusaders to their own lands, where the oriental bacillus caused the most frightful ravages. Then, in a similar manner, its pathogenic power also diminished, and Europeans once again became refractory to the disease. The present reintroduction of leprosy is probably due to the more frequent and rapid communication in recent decades with the Far East. About 40 years ago the Chinese carried leprosy into Polynesia, where it had been up to that time unknown. The natives, who afforded a new field for it, contracted it rapidly and contaminated the whites, who in their turn brought it back to Europe. This Polynesian bacillus appears to be of a dangerous character, for now Europeans who have become leprous there and have returned to Europe convey leprosy to European countries of so virulent and contagious a character as to call for vigilant and strenuous protective measures.

TUBERCULOUS PERITONITIS IN GIRLS SIMULATING DISEASE IN THE INTERNAL GENITAL ORGANS.

IN the *Australasian Medical Gazette* of Dec. 13th, 1913, Mr. A. J. Nyulasy has reported two interesting cases of a rare form of tuberculous peritonitis commencing in the Fallopian tubes which simulated other diseases. Both occurred in girls, aged 17 years, and in the first case neither the family history nor the appearance of the patient suggested tuberculosis. A healthy looking girl was admitted into the Perth Public Hospital complaining of pain in the iliac fossæ which was of several years' duration and increased during menstruation. With the onset of menstruation, five years before, leucorrhœa began and had continued ever since. The abdomen was much enlarged, and dulness extended upwards above the umbilicus and higher on the left side than the right. The dull area was indefinitely fluctuant. The hymen was unruptured, and the uterus was displaced to the right. A tense irregular mass was felt in Douglas's pouch, and pressure on the abdomen above was transmitted to the examining finger. The temperature was somewhat raised, but the general condition was good. Ovarian cyst was suggested. On opening the abdomen the omentum was found greatly thickened and adherent to the abdominal wall, and forming the anterior wall of a fluctuating "cyst," which was tapped, and yielded about six pints of straw-coloured fluid. On further separating the omentum from the abdominal wall tubercles were seen thickly studding it and the parietal peritoneum. The anterior wall of the "cyst" was found to consist of thickened omentum and a layer of fibrinous material. Posteriorly the cyst wall was formed by the rectum and intestines. The fibrinous material was removed with difficulty, and the involved area was then seen to be studded with tubercles, many of which were caseous and broken. The Fallopian tubes were thickened and enlarged, especially at the outer ends, which were fully two inches across, and they contained much fluid caseous matter. The ovaries appeared to be normal. Both tubes and the greater part of the omentum were removed, caseous matter was cleared away, the pelvis was filled with saline solution, and the wound was closed without drainage. During convalescence a tuberculous sinus formed in the upper end of the abdominal wound and was scraped with success. Two years later the patient was in good health. In the second case a girl, aged 17 years, was admitted complaining of abdominal pain of two months' duration, the hæmorrhage having continued since the last menstrual period five weeks previously. She had the delicate pink colouring and fine hair suggestive of tuberculosis, but was not badly nourished and the family history was good. The lower abdomen was tender and somewhat distended. The hymen was unruptured and a rather firm mass was felt in Douglas's pouch, apparently covering an anteverted uterus. On opening the abdomen the omentum was found adherent to the parietes and the parts beneath. When it was separated bright blood appeared in quantity, suggesting ectopic gestation. When the blood had been mopped up grey translucent tubercles were seen studding the parietal peritoneum, omentum, and a mass of intestines densely adherent to the uterus, tubes, and broad ligaments. The adherent intestines were roughened, congested, and sodden-looking. Separation of the adhesions was thus not only difficult but dangerous. The uterus could not be brought clearly into view, but was felt to be small and irregular in consistence. A way was at length made behind it down into Douglas's pouch, where the left tube was felt enlarged and densely adherent to the broad ligament beneath adherent intestines. It was considered unjustifiable further to attempt removal of this tube. The right tube was found much enlarged and very adherent to the broad ligament and to overlying intestines. The end of the tube could be felt in Douglas's pouch, and on separating it some ounces of pale yellow pus oozed up. When this had been mopped out the free end of the tube and an apparently healthy ovary could be partly brought into view. On account of the friable condition of the involved intestines and the extent of the adhesions it was deemed inadvisable to proceed further in an attempt at salpingectomy. The operation area was dried out, a pint of saline solution was run in, and the wound was closed without drainage. The patient was placed in Fowler's position and saline solution was given per rectum. In a couple of days she was taken into the open air and did remarkably well. When discharged some weeks later she had put on weight and was looking and feeling well.

COÖRDINATION AMONG LONDON HEALTH ASSOCIATIONS.

As the result of a conference held at the Mansion House in July of the year before last, at which representatives of Government departments, public authorities, and voluntary agencies concerned with the health of the metropolis were present, a body known as the "Central Health Committee (Voluntary) for London" was constituted. This committee consists of 23 members, and meets in the offices of the Local Government Board. As a result of its labours a report, which contains brief particulars of some of the voluntary societies carrying on health work in London, has been drawn up, and this report has now been printed and circulated by the Local Government Board. Copies of it have been sent to the mayor of every metropolitan borough and the chairman of every metropolitan board of guardians. An official letter which accompanies the report emphasises the advantages to be derived from coöperation between local authorities and voluntary workers. It is suggested that in each borough the mayor a [illegible] convene [illegible] some sc [illegible] importance and value of mutual understanding and assistance on the part of voluntary societies and local health authorities are unquestionable, for overlapping is thus prevented, and unstopped gaps are brought to notice. It is therefore gratifying to find that the Local Government Board is cognisant of the need for coördination and prepared to encourage it. The actual report itself, which stimulated the Board to suggest that the voluntary workers should undertake the organisation involved, is a somewhat disappointing document. It does not pretend to be exhaustive, and is in fact far from complete. It is said to be the result of much work, but there is no internal evidence of anything of the sort. Its publication by the Local Government Board is a proof that the value of coöperation in health work is officially recognised; but it is not the beginning of such coöperation. As a matter of fact, local voluntary agencies and local branches of central societies do actually coöperate with one another and with the borough health authorities. The extent of such inter-communication varies in different boroughs and is seldom quite as great as it might be with advantage, but it is nowhere non-existent. While prepared to give due credit to every effort made to increase desirable coördination in health work we are not especially sanguine that progress will be much stimulated either by the letter from the Local Government Board to the metropolitan mayors or by the incomplete compilation which it covers.

THE RÔLE OF SYPHILIS IN MENTAL DEFICIENCY AND EPILEPSY.

IT is well that the attention of the medical profession should be directed to a recent paper in the *Journal of Mental Science*[1] by Dr. Kate Fraser, assistant medical officer, Govan school board, and Dr. H. Ferguson Watson, medical officer of H.M. prison, Peterhead, lately assistant medical officer, Renfrew District Asylum. In pre-Wassermann days syphilis was regarded as a relatively unimportant factor in the production of mental deficiency. Shuttleworth, for instance (1888), examined 1000 cases by clinical methods only, and found evidence of syphilis in ten. Even in the new edition of Allbutt and Rolleston's "System" (1910) Shuttleworth and Fletcher Beach state they could trace inherited syphilis in only 1·17 per cent. of their cases. With the Wassermann reaction to help us, however, many cases of mental deficiency have been shown to give a positive result which present no clinical symptoms or signs of syphilis. Dr. Fraser and Dr. Watson are the first, we believe, to carry out a general systematic inquiry on this subject in this country, and they emphasise the necessity in all cases of obtaining the family history, making a clinical examination, and performing the Wassermann test. The blood-sera of 99 mentally defective and epileptic children, mainly attending special schools, were tested by Dr. Fraser. A positive reaction was obtained in 44·9 per cent. of 89 cases of mental defect. Of 34 cases of epilepsy among the number, presenting varying degrees of mental defect, positive results were obtained in 15; 15 more gave a negative reaction. Members of the families in 13 of these negative cases were also tested by the Wassermann reaction, and in no fewer than eight instances the test was positive in one or other member. One or two illustrations of the importance of this finding may be given. The serum of a defective girl gave a negative reaction; the mother was a well-developed, healthy woman, who said she had never had a day's illness in her life, nevertheless her blood gave a positive Wassermann reaction. A mentally defective boy and his father both gave negative results, while the boy's twin sister and his mother both gave positive results. In one family a boy and two girls were examples of lesser degrees of mental deficiency, but their sera, tested by Wassermann's methods, were negative. Their mother complained of loss of memory, and was dirty and untidy. Her serum was positive. It should further be noted that only in eight of all the positive cases were stigmata of congenital syphilis present. Dr. Watson examined the serum in 105 cases of mental deficiency, all but six of whom were under 15 years of age. Only 13·4 per cent. showed stigmata, yet no fewer than 51, or 48·5 per cent., gave a positive reaction. Both investigators employed the same technique, and in their paper they demonstrate the extreme care with which their results were tested. As a matter of fact the results obtained by the two independent investigations are practically identical. Out of 204 cases syphilitic infection was present in 123, or 60 per cent. The conclusions drawn by the authors are expressed somewhat as follows: syphilis is the causative factor in more than 50 per cent. of cases of mental deficiency, of whatever degree of severity. Investigation of the families in which defective children appear shows that syphilis is associated with a still higher percentage of cases than is ascertained by the examination of the patients alone. Only a very small percentage of the cases under discussion show external evidence of congenital syphilis, even where the family history and the examination of other members of the family afford practically conclusive evidence of the existence of syphilitic infection. The results of the authors show a larger proportion of positive cases than those of any previous observer. It is important to bear in mind, however, that, as has been demonstrated by others, the percentage of positive reactions diminishes rapidly after the sixteenth year; the cases investigated by Dr. Fraser and Dr. Watson were mainly between 1 month and 14 years of age. The paper is a valuable contribution to the study of the etiology of feeble-mindedness, and it appreciably widens the field of research.

A RARE COMPLICATION OF PHIMOSIS.

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of Jan. 25th Dr. H. Griewank has reported a rare complication of phimosis which occurred in a native of Senegal, who came under observation at the age of 25 years. About the age of 10 years he was circumcised by some native operator, according to the custom of the country. According to the patient the operation was incompletely performed and the preputial stump became inflamed and considerably enlarged, while at the same time the urine was passed with more and more difficulty. At each micturition the urine formed a tumour which was slowly emptied through a punctiform orifice. In the end the preputial pouch thus formed was never completely emptied, and a rounded tumour formed at the end of the penis and gradually enlarged. On examination a spherical tumour of the size of the fœtal head at term hung from the end of the penis. On its surface was a well-marked venous plexus. On its right side was a small orifice from which drops of urine, with a strongly ammoniacal odour, constantly flowed. The penis was slightly enlarged. On palpation the tumour was tender and resistant, and on percussion it was dull. On the left side the inguinal glands could be felt. Catheterism of the urinary orifice with the smallest instrument was impossible. Exploratory puncture with a Pravaz syringe yielded turbid urine with a strong ammoniacal odour, and the sensation of the needle striking against a hard body, such as a calculus, was felt. The general health was excellent. Almost complete preputial atresia, stagnation of urine between the prepuce and glans, decomposition, and formation of calculi were diagnosed. An incision was made at the most dependent part of the tumour; it passed through greatly hypertrophied and chronically inflamed tissue about 3 centimetres thick. Numerous small calculi of a yellowish-white colour were found filling the whole space between the prepuce and glans. They were removed, circumcision was performed, and the case ran the ordinary course. The calculi removed weighed 540 grammes. They were generally in the form of a *calotte*, convex on one side and concave on the other. The largest were of the size of a small haricot bean and weighed 40 centigrammes; the smallest were of the size of a lentil and weighed about 20 centigrammes. They almost all contained a hard nucleus, around which was a more friable deposit. Chemical analysis showed that they were composed of calcium and ammonium-magnesium phosphates.

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[1] October, 1913.

ACCIDENTS FOLLOWING THE TRANSFUSION OF BLOOD.

IT is generally supposed that transfusion of human blood is an operation without ill-effects, but a considerable number of cases in which hæmolysis or agglutination of the donor's blood corpuscles occurred have been recorded, and some have been fatal. Delirium, jaundice, and, in severe cases, hæmoglobinuria were the symptoms. In the *Journal of the American Medical Association* of Dec. 13th, 1913, Dr. R. Ottenberg and Dr. D. J. Kaliski have published an important paper, in which they show the value of preliminary blood examination in avoiding accidents. Hæmolysis of one human blood by another is a pathological phenomenon which was thought to be especially characteristic of cancer and tuberculosis, but is now known to occur in a great variety of diseases. By means of a modified Wright's capillary pipette Dr. Ottenberg and Dr. Kaliski examined the blood of 128 patients and found it to be hæmolytic for several prospective donors in 17. The diseases in which this occurred were purpura hæmorrhagica, carcinoma of the stomach, carcinoma of the rectum, lymphatic leukæmia, pernicious anæmia, chronic osteomyelitis (due to staphylococcus aureus), and pelvic abscess. In all except two cases the patients' serums were hæmolytic with only some of the prospective donors' blood. In two cases, on account of the desperate condition of the patient, hæmolytic transfusion had to be ventured. In one the disease was pernicious anæmia. The serum of the patient was agglutinative and weakly hæmolytic to the cells of the donor. The transfusion was followed by intense hæmaturia, which lasted 24 hours, during which the hæmoglobin fell from 34 to 31 per cent. instead of rising, as almost invariably occurred in other cases. In spite of the loss of the transfused blood the transfusion apparently had a favourable influence, as the patient improved slowly but steadily during the following month. He returned to hospital eight months later and a second transfusion was done from a donor whose blood was not agglutinated or hæmolysed by the patient's serum. This transfusion was successful; the patient was greatly improved and life was prolonged for a year and a half. In the other case (acute lymphatic leukæmia) the patient's serum sharply agglutinated the donor's cells, but only slightly laked them after three and a half hours in the thermostat. No hæmoglobinuria followed the transfusion, but blood smears showed phagocytosis of red cells by leucocytes in the circulating blood. The patient died 42 hours after the transfusion. Jaundice occurred in only one case and was slight and transient. The absence of hæmoglobinuria in over 100 cases in which hæmolytic donors were excluded shows the value of blood examination. Agglutination, unlike hæmolysis, is not a pathological phenomenon, but occurs between normal human bloods. All human beings can be divided into four permanent hereditary groups sharply separated by agglutinative reactions. When the blood of two persons belonging to the same group is mixed no agglutination occurs. When the blood of two persons of different groups is mixed agglutination either of one by the other or of each by the other always occurs. Human iso-agglutinins are present only in small quantities and can be absorbed by a small number of susceptible cells. When the serum of the donor is agglutinative to the cells of the patient, it will be so diluted on transfusion that little, if any, agglutination will result. When the patient's serum is agglutinative towards the donor's cells the conditions are more favourable to agglutination, but even here it is probable that only exceptionally can massive clumps of agglutinated cells be formed, such as are seen in the test-tube. Only in these cases has phagocytosis of the cells in the circulating blood been observed. Dr. Ottenberg and Dr. Kaliski have seen three transfusions in which the serum of the patient was agglutinative to the cells of the donor, and in two of these the serum was slightly hæmolytic. One was the case of lymphatic leukæmia referred to above. Another was a case of pernicious anæmia. Blood smears made after the transfusion showed phagocytosis of red corpuscles by polynuclear leucocytes. No urine was passed after the transfusion, and death occurred eight hours later. The necropsy revealed extensive phagocytosis of the red corpuscles in the spleen and lymph nodes. Agglutination need not be regarded as a contraindication to transfusion, but non-agglutinative donors should be chosen if possible. There is an important corollary not given by Dr. Ottenberg and Dr. Kaliski. As the principal danger of transfusion is hæmolysis, and as this occurs only in disease, normal blood can be safely transfused in a case of hæmorrhage.

TUBERCULOUS RHEUMATISM.

THE relation between tuberculosis and rheumatism is a topic which has lately been discussed in many quarters. In THE LANCET for Jan. 3rd we published an interesting case of tuberculous rheumatism recorded by Dr. Nathan Raw, whose investigations, including inoculation experiments on guinea-pigs, clearly proved the tuberculous nature of the rheumatism. Some writers are apt to label polyarthritis as tuberculous when it occurs in the subjects of pulmonary and other forms of tuberculosis. Theirs is the view that various manifestations should, as far as possible, be "hung on one peg," instead of being attributed to more than one primary factor. Dr. Raw considers tuberculous rheumatism very rare. Professor Poncet and his school consider it very common. Several cases have lately been published in which injections of tuberculin provoked great pain and swelling in many joints already the seat of rheumatism, which has accordingly been regarded as tuberculous. At a recent meeting of the Medicinske Selskab of Christiania Professor Peter Holst discussed the difficulties of correlating tuberculosis with polyarthritis. In 27 cases of chronic and subchronic arthritis he punctured the joints, and injected the fluid thus obtained into guinea-pigs, or he examined it microscopically. None of the nine guinea-pigs thus treated developed tuberculosis. Inoculation into guinea-pigs of glands excised from the neighbourhood of the swollen joints also gave a negative result. Diagnostic injections of tuberculin provoked in almost all these patients fever and general malaise, but with one exception there was no exacerbation of the arthritis. The one patient whose arthritis was affected by 5 milligrammes of tuberculin was a girl, aged 17, whose chronic polyarticular rheumatism had begun as an acute rheumatism. The tuberculin induced fever and the formation of a ganglion over one ankle. Fluid withdrawn from the ganglion contained lymphocytes and was injected into a guinea-pig, which did not develop tuberculosis. While the fluid withdrawn from the joints in this case contained no other cells than lymphocytes, the fluid withdrawn in all the other cases contained numerous polynuclear neutrophil leucocytes and an occasional macrophage. Speaking at the same meeting Dr. Tillisch, of Grefsen Sanatorium, reported four cases of subacute polyarthritis with effusion which he had observed among his consumptive patients. The condition resembled closely that of acute rheumatism, and in one case disappeared after a course of tuberculin. In two other cases swellings of the ankles disappeared spontaneously. In the fourth case the disappearance of the arthritis was followed by purpura hæmorrhagica and nephritis. Dr. Tillisch finds salicylates give relief in such cases, but on this point he stands practically alone. Menzer and many other writers consider salicylates and similar drugs objectionable, as they may mask the condition which requires vigorous treatment with vaccines, including tuberculin. Recent work on tuberculous rheumatism leaves the impression that our knowledge in this field is exceedingly limited.

ETHER IN CASES OF PURULENT PERITONITIS.

ON previous occasions[1] reference has been made in our columns to the intra-abdominal use of ether in France by Dr. Souligoux, Dr. Morestin, and others. Dr. Morestin has systematically used ether in doses of two to four ounces in all cases of purulent peritonitis. All accessible parts of the intestine are first washed with ether, and two to four ounces of pure ether are then poured into the abdominal cavity and left to evaporate. Of course, all primary sources of infection, such as the appendix and so forth, are treated, and if accessible removed. In 31 cases, some of which were apparently utterly hopeless, the results exceeded all expectation. Dr. Morestin speaks favourably of the simplicity of the procedure and the rapid improvement of the patients. He suggests that the ether stimulates the intestinal circulation and acts antiseptically. Dr. Souligoux and Dr. Témoin have each reported two apparently hopeless cases of perforative peritonitis which terminated in recovery. To these Dr. Jeanneret, in a recent number of the *Revue Médicale de la Suisse Romande*, adds the following case treated by him in an Alpine health resort, removal to a hospital being impossible. A boy, aged 7, was attacked by appendicitis on July 20th, 1913. Perforation occurred on July 22nd. Pulse 160, temperature 103° F. Two surgeons having declined to interfere surgically, by July 23rd collapse rapidly increased. The tongue was dry and coated black, and the boy was comatose. The temperature sank from 103° to 96°, while the pulse rose to 180. At 8 P.M. surgical intervention was practised *in extremis*. Laparotomy revealed generalised peritonitis proceeding from a perforated and gangrenous appendix. The appendix was removed and the abdomen drained. Two ounces of ether were poured through the drain into the lower part of the abdomen. The pulse fell to 135, and a slight rise of temperature from 96° occurred. There was no vomiting, and the boy passed a good night. Next day saline transfusion was administered, one pint in the morning and half a pint in the evening. The pulse was now 130, the temperature from 100·5° to 101°. On July 26th the temperature was 98°, the pulse 80, and the boy had his first normal movement of the bowels. Slow improvement took place during the next eight days; then serious symptoms again supervened, the temperature rising to 102° and the pulse to 130–140. Another injection of two ounces of ether was given through a drainage-tube. After this recovery was rapid and definite, and in six weeks the boy was running about again. It would seem that the rapid subsidence of serious symptoms on two occasions in this patient justifies a hopeful attitude in regard to this method of treatment, sufficient at least to justify its more widespread trial.

THE STUDY OF NEW GROWTHS.

WE have received the November–December number of a bi-monthly periodical entitled *Tumori*,[1] published under the superintendence of G. Fichera at Rome. Among other interesting articles there are two which call for special notice. One is an account of a case of cancer of the stomach treated by means of autolytic fœtal products by Dr. A. Bazzocchi at the hospital at Ronciglione. The patient was a woman, aged 48, suffering from abdominal pain after food and wasting. There was a pyloric tumour and dilatation of the stomach with enlargement of the supraclavicular glands on the left side. Extract of fœtal organs, thyroid, thymus, and spleen, was injected on four successive days, and improvement in the patient's condition was at once noticed. A year afterwards her weight had increased from 62 to 71⅓ kg., no trace of the pyloric tumour existed, and the patient was in florid health. The supraclavicular glands which had been excised showed epithelial nests. The second paper is a contribution to the study of hæmo-angioma of the mamma by Dr. G. Marangoni, of the Hospital at Padua. This kind of tumour is of extreme rarity, and the case reported is interesting on account of the clearness with which the peripheral development of the neoplasm can be followed.

THE Milroy lectures at the Royal College of Physicians of London will be given this year by Dr. F. Shufflebotham, of Newcastle-under-Lyme, who will lecture upon the Hygienic Aspect of the

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[1] THE LANCET, March 8th, 1913, p. 723; May 13th, p. 1563; and Nov. 1st, p. 1253.

[1] Tumori, Archivio bimestrale fondato da G. Fichera, Anno iii., Fasc. iii., December, 1913, Roma.

Coal-mining Industry in the United Kingdom.' The lectures will take place on Feb. 19th, 24th, and 26th, and on March 3rd and 5th, at 5 o'clock in the afternoon. Dr. Shufflebotham will pay special attention to the conditions under which coal-miners work, to the causation and prevention of accidents and explosions, and he will deal with the questions of poisonous gases in mines, dust, high temperatures, as well as with miners' nystagmus, beat-hand, beat-elbow, and miners' skin diseases. The lectures will be illustrated by lantern slides, and at the lecture on miners' nystagmus on March 3rd there will be a demonstration on living cases.

IN our last issue we gave preliminary details of the fifth annual session of the Clinical Congress of Surgeons of North America which is to be held in London during the week commencing July 27th next; but we may repeat that temporary offices for the Congress have been established in the building of the Royal Society of Medicine, No. 1, Wimpole-street, W., and inquiries may be addressed to the Secretary-General, Dr. Franklin H. Martin. Sir Rickman J. Godlee is chairman of the London Committee of Arrangements, and Mr. H. J. Paterson and Mr. H. S. Pendlebury are the honorary secretaries. It is expected that 1200 to 1500 surgeons from the United States and Canada will be in attendance at the meeting in London.

THE King has approved the appointment of Mr. John Carswell as a Medical Commissioner in Lunacy for Scotland. — The Secretary for Scotland has appointed, under the provisions of the Mental Deficiency and Lunacy (Scotland) Act, 1913, Dr. Kate Fraser and Dr. James P. Sturrock to be Deputy Commissioners of the General Board of Lunacy for Scotland.

THE TRAINING OF MEDICAL OFFICERS OF PRISONS.

(FROM A CORRESPONDENT.)

IN a letter which appeared in the *Westminster Gazette* of Jan. 22nd Surgeon-General G. J. H. Evatt asked a series of questions regarding the mode of appointment, the professional qualifications, and the conditions of service of the medical men who are employed under the Prisons Department of the Home Office. As some portion at all events of the information which he sought is to be found in such readily accessible sources as the introductory pages of the Medical Directory, we shall hardly do Surgeon-General Evatt an injustice in assuming that his questions were to be regarded as being to some extent of a rhetorical character, and intended not so much to secure the satisfaction of his own doubts as to stimulate the curiosity of his readers. This is, of course, a perfectly legitimate way of attaining what is doubtless an entirely laudable end, but some of his questions which imply an attitude of criticism are not likely to receive answers in a lay journal, even though one which is distinguished by its broad and fair views be in question. If his letter has the effect of provoking intelligent discussion of the many important problems that arise in connexion with the medical aspects of prison work, so much the better.

Surgeon-General Evatt's suggestions—for, in spite of their interrogative form, it is in the light of suggestions that we may regard most of his remarks —were mainly of interest from the conception which they implied of the rôle of medical science in the [illegible] view Surgeon-General Evatt is really perpetuating a peculiarly mischievous tradition. Not that his criticism of the present organisation of the prison service, as still bearing traces of the army system, is without distinct force, but he has missed the point that it was not because it was bad of its kind that the army system had an evil influence on penal administration. It was because, being designed for the special conditions of an army, it was necessarily unsuited for the needs of a prison. If there is one fact definitely established by the failure of penal administration in the past, it is assuredly the futility of applying military methods to the treatment of the criminal; it is not on the barrack but on the lunatic asylum that the prison should be modeled, and it is idle to look for any real progress in prison reform except through the permeation of the prison system by something approaching the psychiatric spirit. This principle, almost a truism of modern criminology, is so little appreciated that we find a medical man of Surgeon-General Evatt's position considering a knowledge of mental diseases as less important for a prison doctor than the possession of a sanitary diploma. The connexion of crime with mental disability is not in any way recognised by suggesting that medical officers of prisons should receive lectures from specialists on mental disorders at lunatic asylums. It would be of very mischievous effect if this utterly inadequate standard of psychiatric training should be put before the public as satisfying the requirements of prison work, and it is therefore desirable that medical opinion should be at once dissociated from so reactionary a view. The point is of considerable importance, for it touches principles that are essential in the modern conception of the treatment of the criminal. This has, in fact, been so well recognised that the last Departmental Committee on Prisons, which reported in 1897, strongly recommended that practical experience in the treatment of insanity, such experience, that is to say, as can only be acquired by actual asylum work, ought to be an indispensable condition of appointment to the medical branch of the prison service.

This sound principle has not, unfortunately, received statutory sanction in the Prison Act of 1898, though a recommendation to this effect is allowed to remain as a pious exhortation, on the understanding that effect would, as far as possible, be given to it in practice. It is to be regretted that the position was not clearly defined in the Act by making adequate psychiatric training a statutory qualification for the prison service. This would have done much to promote that closer association of prison and asylum work which is so essential to the growth of a scientific criminology, and it would also have helped to make clear to the minds of prison reformers the goal to which their efforts can be most usefully directed. These are matters in which the public mind certainly needs enlightenment, and any such discussion of them as may definitely establish the paramount importance of psychiatry in the treatment of the criminal would be welcomed by the medical profession.

THE HEALTH OF THE ARMY IN 1912.

FROM the report on the health of the British army that has just been issued,[1] it will be seen that while the proportions of admission to hospital and of invalids finally discharged are very slightly in excess of those in the previous year, the death ratio and ratio of men constantly sick in hospital are even lower than in 1911; while in every respect the improvement in comparison with the average health statistics of preceding periods is most marked. The following are ratios per 1000:—

	Admissions.	Constantly sick.	Deaths.	Invalids.
1889–98 ...	... 997·3 ...	59·85 ...	9·03 ...	15 36
1907–11 ...	... 498·6 ...	28·75 ...	4·17 ...	9·57
1911 ...	... 421·1 ...	24·28 ...	3·47 ...	8·09
1912 ...	... 426·3 ...	23·72 ...	3·26 ...	8·25

If the number of men suffering from trivial ailments and disabilities under treatment in barracks be added to those sick in hospital, the total ratio of sickness only amounts to 31·59 per 1000, little more than half the constant inefficiency before the South African war.

The active strength of the army, amounting to 213,678 warrant- and non-commissioned officers and men, may be divided into three groups: about one-half of the force (107,582) are stationed in the United Kingdom; the remainder are either serving in India (71,001) or in the various colonies and dependencies (35,095). As compared with the year 1911, there is a slight increase in the admission ratio for India (547·9 in place of 524·7 per 1000) and for the entire army (426·3, compared with 421·1); and in the invaliding ratio for the colonies (8·95, compared with 6·02); under all other headings the ratios are practically the same or slightly lower.

Recruiting.

The statistics for recruits are now prepared for the "recruiting year" from Oct. 1st to Sept. 30th, instead of for the calendar year as formerly. For the period 1911–12 the number of recruits brought forward for medical inspection, 47,008, was more than a thousand less than in the year 1911, and far below the preceding decennial average of 62,140. This serious deficiency is attributed partly to emigration and partly to improved conditions of trade. The proportion rejected on medical examination was 237 per 1000, a reduction on the figure for the previous year (257) and on the decennial average (321). This improvement, however, is not attributed to any general improvement in physique in the classes from which the recruits are drawn, but to alterations in detail effected in the primary examination by the recruiters, and in the coördination and standardising of the medical examination, and to improved methods of physical training, also to a relaxation of the requirements in certain particulars, such as chest measurement and the condition of the teeth. The rejections for chest measurement were only 29 per 1000, compared with the decennial average of 49; for dental deficiency the rejections were 22, compared with 56 (due to lessened stringency of requirements). Heart disease (37 per 1000) was a more frequent cause of rejection than in the previous decennium (27 per 1000). It is considered that the rejection ratio is too high, many cases being for comparatively harmless functional diseases, such as tachycardia from cigarette smoking. Defective vision (21) was not so frequent a cause of rejection as in the preceding decennium (29 per 1000). In regard to the maintenance of a good standard of recruit (excluding those under 18) the average age was 19·6 years, average height 66·2 inches, minimum and maximum chest measurements (average) 33·3 and 35·6 inches respectively, range of expansion 2 6 inches, and weight 127·8 lb. All these figures are almost precisely equal to those of the preceding decennium, and may be considered satisfactory. The standard of vision was relaxed in 1912. With normal vision in the better eye, not more than 6/60 is required in the other, the recruit being accepted for certain corps only if the right eye be the one defective. The present system of physical training continues to give satisfactory results. A series of observations at Aldershot showed that with each week's training there was a progressive tendency to more rapid return to normal of the pulse-rate after "a full obstacle course."

Sanitation.

A short section of the report deals with the progress of sanitary administration in general throughout the army. Systematic instruction in the principles and practice of this important subject is now given to the cadets at Sandhurst and Woolwich, and practical demonstrations in the field, as well as lectures, are given at the School of Army Sanitation at Aldershot, where 900 officers and men of various branches passed through the courses during the year. It is noted with satisfaction that improvement has taken place in the sanitary administration of barracks and camps throughout the country, and that commanding officers are more and more alive to their responsibility in this regard, and cordially coöperate with medical officers in carrying out recommendations. The health of the troops has been good both in barracks and camp, and this fitness is maintained by a monthly inspection of every soldier, any man in a doubtful state of health receiving special attention. As regards experimental work at the Royal Army Medical College and School of Army Sanitation, the chief results have been that it has been found possible to clarify water thoroughly before passing it through the candles of the regulation filters; as the result of practical tests on experimental marches a new emergency ration has been devised, and bacon and cheese have been added to the ordinary field service ration; the purification of the water of swimming baths has been investigated; and observations have been made and experiments carried out on the heating of wards and barrack rooms, on the efficacy of gaseous disinfectants, and on the preservation of army biscuits from attacks by the larvæ of moths.

Invaliding.

The ratio for invaliding (final discharge from the service) was 8·25 per 1000, being 0·16 per 1000 higher than in the previous year, the increase occurring in men serving abroad. Diseases of the nervous system (1·61) form the highest proportion, being, however, less frequent than in almost any previous year. Circulatory diseases (1·27) are fractionally higher than in 1911, but less than in any year preceding. Tuberculous affections (1·18) were practically the same as in 1911, and syphilis (0·11) led to the invaliding of only 25 men, the ratio being much lower than any previously recorded.

Health of the Troops in the United Kingdom.

The improvement that has been manifested in the health of the home forces during recent years is shown concisely in the following table (the figures are ratios per 1000):—

	Admissions.	Constantly sick.	Deaths.	Invalids.
1889–98 ...	712·5 ...	41·14 ...	4·32 ...	16·98
1907–11 ...	387·0 ...	22·15 ...	2·69 ...	11·59
1911 ...	346·3 ...	20·08 ...	2·47 ...	9·78
1912 ...	346 4 ...	19·50 ...	2·34 ...	9·37

There is but little variation from the figures for 1911, but there is a decrease in all items compared with the preceding quinquennium. The figures for admission to hospital and constant inefficiency from sickness are less than half, and those for mortality and invaliding not much more than half, the ratios for the period before the South African war.

The admissions were highest in the London District, 629·2, and lowest in the Western Command, 241·8 per 1000. The constant inefficiency from sickness was also highest in London, 35·67; the lowest ratio being 11·85, also in the Western Command. As regards the different arms of the service, the Household Cavalry, as always, show the highest admission rate (707·3); and the Foot Guards the highest number constantly sick (34·54); the Infantry of the Line have had only 359 4 and 20·77 respectively. The most fatal disesses amongst soldiers at home were pneumonia (causing 32 deaths), pulmonary tuberculosis (18 deaths), and appendicitis (12 deaths). The diseases causing most sickness were the venereal group, which together gave a constantly sick ratio of 5·51, out of the total 19·50 per 1000; the chief causes of invaliding out of the service were tuberculosis (1·38 per 1000, of which 1·19 was pulmonary), nervous diseases (1·11), and valvular heart disease (1·12).

India.

The average strength of the European force in India during 1912 was 71,001 warrant and non-commissioned officers and men. The following table shows the great improvement in health that has taken place in recent years (in ratios per 1000):—

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[1] Report on the Health of the Army for 1912. H.M. Stationery Office, 1913. Price 1s. 6d.

	Admissions.	Constantly sick.	Deaths.	Invalids.
1889–98 ...	1464·7 ...	89 61 ...	16·43 ...	14·78
1907–11 ...	679·7 ...	38·49 ...	6·77 ...	7·17
1911 ...	524·7 ...	28·81 ...	4·89 ...	6·20
1912 ...	547·9 ...	28·86 ...	4·82 ...	5·94

As compared with 1911 there is a slight increase in the admission ratio, the other figures being practically the same as for that year. Compared with the preceding quinquennium, and still more if the statistics before the South African war be examined, it is seen that the constantly sick and mortality ratios are less than one-third, the admission ratio not much more than one-third, and the invaliding considerably less than one-half the average of the former period.

The greatest number of admissions to hospital have been due to malaria (82·4 per 1000), almost exactly half the ratio for the preceding quinquennium (163·8). Sandfly fever was, however, extremely prevalent, the admissions amounting to 30·5 per 1000, compared with the quinquennial average of 5·4; but pyrexia of uncertain origin caused only 21·2, compared with 47 per 1000 in the former period. No doubt in previous years the diagnosis between these affections was frequently uncertain; for all three together the ratios came to 134·1 in 1912 and to 216·2 in 1907–11. Venereal diseases caused 55·5 per 1000 admissions, compared with 67·8 in the preceding period, and to these affections was also due the greatest inefficiency, their constantly sick ratio being 7·06. The most fatal diseases were enteric fever (0·37), inflammation of the liver (0·34), and pneumonia (0·28 death per 1000).

For enteric fever the number of admissions, 118, was the lowest on record, being only 1·7 per 1000 of strength; if the admissions for paratyphoid A and B be added the ratio is still only 2·6. The enteric admission ratio for 1907–11 was 8·5, and for 1895–1904 it was 22·3; these figures bear the most eloquent testimony to the immense improvement in sanitary conditions that has taken place in recent years and need no comment. The death ratio in 1912 was 0·37 per 1000 (or, including paratyphoid A and B, 0·39); for 1907–11 the ratio was 1·59; for 1895 to 1904 it was 5·62. The largest number of cases in any one division occurred at Secunderabad, where there were 26 (with 5 deaths); in the Poona division there were 19 cases (no deaths); in the Lucknow division 15 cases with 6 deaths. Anti-enteric inoculation is carried on vigorously: 90 per cent. of the European troops have been inoculated. The enteric admissions among these men were in a ratio of 1·20, and the deaths in a ratio of 0·15 per 1000; for the non-inoculated these ratios were 6·69 and 2·69 respectively; the relative case-mortality ratios were 12·8 and 40. For paratyphoid fever inoculation does not seem to have afforded much protection; 64 cases were admitted during the year, only one of which had not been inoculated. The enteric fever depôts at Naini Tal (for Northern India) and Wellington (for the South) have been of the greatest service. Uncertain and possibly dangerous cases are sent to these depôts, where careful and prolonged examinations of excreta are carried out, as well as examinations of cultures forwarded from all parts of India. Important work has also been done in regard to the viability of paratyphoid A bacillus in dejecta buried in earth; in the cold weather such fæces remained infectious for long periods, but in the warmer months they became innocuous within ten days, owing to the multiplication of saprophytic bacteria; the bacillus did not survive in infected flies more than 24 hours.

The year 1912 was not a bad year for fever in India, and for the British troops the malarial admissions were only 82·4 per 1000; for sand-fly fever the admission ratio was 30·5; the admissions for [illegible] accuracy of dia, [illegible] for the reductic [illegible] the use of mosquito nets by troops is general there is unlikely to be any great reduction in malaria prevalence. The Government of India have definitely decided to incur no expense in providing nets for soldiers other than in a few selected places; the provision, therefore, of these protectors for the men depends entirely upon regimental initiative." It is extremely regrettable that such an obscurantist and short-sighted attitude should be adopted by the Indian Government. In former years very large sums have been expended on improvement of water-supplies and sanitary amelioration generally; the result in the improved health of the troops (and their consequent efficiency) is manifest. At the present time one of the most certain means of prevention for malarial fever is quite well known and of easy application—viz., mosquito netting. In stations that are notably malarial we hold it to be the duty of the Government to provide protection for its servants, and to insist that this protection be made use of. Discipline can effect the latter, money is required for the former; it should not be left to the private soldier in a feverish station to pay for his own protection from malarial mosquitoes.

Of small-pox there were 17 cases, with 3 deaths, a much higher incidence than in any recent year; 2 of the fatal cases had been vaccinated, the third had unsatisfactory marks; each of the non-fatal cases had been vaccinated in infancy, and in each revaccination on entering the army had failed. There were an unusually large number of admissions for dengue (364 = 5·1 per 1000), mostly in Calcutta and Madras, where the disease is prevalent among the native population. There appears to be some reason to suspect infection by sand-fly bites. No cases of beri-beri are returned, but 60 cases of multiple neuritis occurred, mostly in Calcutta and other Bengal stations. Two deaths resulted from cardiac failure. For venereal affections the admission ratio, 55·5 per 1000, shows a slight increase on the ratio for 1911 (53·1), although the reduction on the quinquennial figure (67 8) is decided. For syphilis the admissions have diminished, but for gonorrhœa and soft chancre there has been a slight increase over the previous year. These diseases are most prevalent in Burma (84), Secunderabad (74·7), and Lucknow (72·7); least in Rawal Pindi (34·2) and Quetta (39·1 admissions per 1000). The modern treatment by salvarsan is carried out in conjunction with after-treatment by mercury and iodides. There have been no untoward results.

Other Stations Abroad.

In Egypt there was maintained a force averaging 5508 men; the admission (507·4), constantly sick (34·22), and invaliding (10·71) ratios were higher than in 1911, but (except for the last named) lower than in the preceding quinquennium. For enteric fever there were 52 admissions (9·4 per 1000), more than in any year since 1902; 33 cases occurred at Abbassia in April and May, traced to an active carrier, who had had the disease in 1911, had been given a clean bill of health in June (the dejecta having been free from infective organisms since April), but who was found in 1912 to be again excreting B typhosus abundantly. He was not a cook, but occasionally helped in the preparation of teas for his troop. Malaria occurred at Khartoum, after heavy rainfall; and at Alexandria, among men infected in Cyprus. Tonsillitis broke out in an acute form in Cairo and in Khartoum, ascribed to infected dust at the latter station, and in Cairo to food infected by dust. Bilharzia infection caused 39 admissions in Cairo, attributed to a floating bath in the Nile; this has now been done away with.

In Gibraltar and Malta the health statistics were satisfactory; 3 cases of Mediterranean fever occurred in Malta, 2 being definitely traced to goats' milk.

In the South African Command the average strength of troops was 10,488, with an admission ratio of 343·1, average constantly sick 23·60, and deaths 3·53 per 1000. The constantly sick ratio is somewhat above the quinquennial average (21·78); the other ratios are lower. The general health of the troops is described as having been excellent. For enteric fever there were 25 admissions and 4 deaths; 11 of the cases occurred at Pretoria and 9 at Tempe. Food contamination by flies and the consumption of fruit and vegetables handled by natives are thought to have been likely causes. No cases occurred at Tempe after the wet system of conservancy, with cresol, had been introduced. It certainly causes surprise to learn that this method had not been brought into universal use in such a climate as South Africa some years ago. In North China there were a considerable number of admissions for malaria at Tientsin and Peking, all of benign tertian infection; the parasite was demonstrated microscopically in every case. The disease must have had a local origin (as the men had in most cases not

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County of Berkshire.—The most important recent feature of public health administration by county councils has in most cases been their sanatorium and dispensary provision and the general county arrangements for prevention of tuberculosis, and these questions naturally bulk largely in the series of annual reports of English county medical officers of health which have appeared during the last few months. It is, however, regrettable that, in consequence of the official scheme of reporting, the accounts now available do not, as a rule, include the developments which took place last year, but relate only to the action taken in 1912, which (so fast have administrative schemes developed) is often very little guide to the present position. County medical officers are, of course, handicapped in reporting earlier on matters which are under their direct charge by the official requirement that they are to include in their annual reports a digest of all annual and special reports of the medical officers of health of the various sanitary districts in their counties, and are to review a number of questions which have fallen under the district rather than the county jurisdiction during the year reported on. It has been suggested that reviews of this kind might be carried over to the following year's report without loss of usefulness. There can be no doubt, however, that they can be made very valuable, and Dr. Gerard C. Taylor's report on the public health of Berkshire is a good example of their utility. We would specially commend the introductory tables, which give names, addresses, telephone numbers, and the like of the medical officer of health of each sanitary district, corresponding particulars of the sanitary inspectors, census figures for each district and parish, their death-rates, crude, corrected, and various other details which, though they may seem small individually, add greatly to the practical value of the volume to all concerned with public health work in the county. We think, too, that there is much to be said in favour of the plan which Dr. Taylor follows when he prefaces his account of the position of the various districts in such matters as hospitals, water-supply, and housing, by concise statements of the powers and duties of the local authorities in regard to them. In the section relating to infectious disease Dr. Taylor mentions the discovery, in consequence of the appearance of diphtheria at Cookham Rise school, of two children who were carriers of the diphtheria bacillus, although showing no symptoms of diphtheria. One of these carriers received persistent treatment for some three months, at the end of which she developed definite clinical symptoms of diphtheria. The case is, of course, not very singular, but it is so frequently assumed that the diphtheria carrier is immune to attack that it deserves notice.

County of Staffordshire.—Much of the time occupied during 1912 in elaborating a county scheme for dealing with tuberculosis in Staffordshire was devoted to the discussion of a promising proposal for amalgamation of this work under a single administrative authority, which would act for the whole of the county and for numerous county boroughs as well. The amalgamation has only been partially effected; it includes the county and the two county boroughs of Wolverhampton and Dudley, but other outside authorities have preferred each to make its own arrangements. It is easy to understand that local preference would generally be in the direction of independence. It remains to be proved by experience that the smaller county boroughs can in this way do as well for their tuberculous cases, and it will be instructive in future to compare their position with that of Dudley and Wolverhampton. In dealing with enteric fever in Staffordshire Dr. George Reid lays stress on the steady and uninterrupted decline which is taking place in the mortality from this disease both in urban and rural areas. In the former enteric fever death-rates per 1000, which in the five-yearly periods 1889–93, 1894–98, 1899–1903, and 1904–08 were respectively 0·15, 0·2, 0·16, and 0·09, have diminished to 0·04 in 1912, while in the latter the corresponding figures are 0·12, 0·08, 0·09, and 0·03, which is also the figure for 1912. The gradual abolition of privies and the substitution of water-closets, as well as the extension of public water-supplies, must be given the greatest prominence among the reasons of this gratifying diminution. Improvements are by degrees being effected in the quality of water in the rivers and streams of Staffordshire by the efforts which are made to secure satisfactory means of sewage disposal. Manufacturers' effluents, of course, often contribute largely to pollution of rivers, and it is desirable that local authorities, which usually obtain substantial sums in the way of rates from the factories in their districts, should wherever possible take these trade wastes into the public sewers so that they may be purified, with other sewage, at the outfall works. Milk factories may be great offenders in the matter of trade wastes, and at Uttoxeter considerable difficulty seems to have arisen through the district council taking the shortsighted policy of refusing to admit the effluent into the sewers, notwithstanding the reiterated advice of the county council, the Local Government Board, and the Royal Commission on Sewage Disposal. Needless pollution of the river consequently goes on, the public health committee of the county feeling that it would be inequitable to prosecute the manufacturers, while the county authorities are apparently unable to coerce the district council. In this county systematic inspection of the sanitary condition of urban districts by the county medical officer of health or his assistants has been in progress for some time, and seven of these were inspected in 1912. Dr. Reid anticipates that good will result from the representations which have been made to the district councils as a result of these inspections. The notification of ophthalmia neonatorum, if we remember right, came into practice in Staffordshire largely on Dr. Reid's initiative. At present this affection is notifiable in rather more than half the area of the county, including about three-fourths of its population, but some districts seem to have been content to adopt the notification—a useless proceeding by itself—without making suitable arrangements for the immediate treatment of the new-born infants found to be affected. The county scheme for providing gratuitous bacteriological examinations in suspected cases of diphtheria, enteric fever, and tuberculosis is said to be successful, when judged by the increasing numbers of specimens submitted. The cost to the county per specimen is 5*s.* in the case of diphtheria (2*s.* 6*d.* in the case of diphtheria contacts), 3*s.* for tuberculosis, and 5*s.* for enteric fever. In reporting on the administration of the Midwives Act Dr. Reid draws attention to the fact that midwives now send for medical help to a much larger extent than formerly. In the absence of a statement of the number of births attended by midwives during the year no percentage can be given, but in 1912 the total number of requisitions for medical help was 893, the total births, whether attended by midwives or not, being 18,332.

County of Nottinghamshire.—In this county 21 cases of puerperal fever, with 8 deaths, were reported in 1912, and Dr. H. Handford, commenting on the smallness of the former figure, refers to the unwillingness of many members of the medical profession to notify cases of puerperal fever. Attention has often been drawn to the unreliability of puerperal fever notification, but it is not, we think, generally supposed that the occurrence of puerperal fever in the practice of midwives goes unreported by medical men where they meet with it. Dr. Handford, however, states that this reluctance to notify constitutes one of the greatest hindrances which local supervising authorities have to overcome in carrying out the Midwives Act and in supervising the practice of midwives. While drawing attention to the pressing need for new milk legislation, and the harm done by its continued postponement, Dr. Handford is able to show that even under existing conditions a considerable advance has been made by some of the more progressive sanitary authorities in Nottinghamshire towards reducing the risk of tuberculous milk. In the urban district of Newark, for example, there are dairy and veterinary inspectors who systematically visit cowsheds and take measures to eliminate diseased cattle; the work of locally appointed veterinary surgeons is referred to in the case of several other districts, including Worksop, where 812 animals were examined for tuberculosis; Sutton-in-Ashfield, where every cow in milk was subjected to veterinary inspection during the year; and Kirkby-in-Ashfield, where the appointment of a veterinary inspector was justified by the discovery of 15 cows with tuberculosis of the udder out of 242 cows inspected. The opportunities for useful work of this kind should be increased by the Tuberculosis of Animals Order of last year, and it is to be hoped that it will be continued. The report brings out forcibly the importance of not confining public scavenging and similar work to urban centres. The organised removal of refuse is one of the principal needs of many villages and comparatively small communities. Another matter which should receive attention in rural districts on the outskirts of manufacturing centres is the prevention of smoke nuisance. The proper consumption of smoke results not only in greater amenities and better health to the public, but also usually in financial benefit to the manufacturer, and local authorities should not hesitate to press their powers in the matter, even when the offending factory is more or less "out in the country."

REPORTS OF SCHOOL MEDICAL OFFICERS.

Hampshire County Council.—Dr. R. A. Lyster's report includes the record of a special investigation made to determine the frequency of pulmonary tuberculosis. 230 children taken at haphazard were very carefully and systematically examined on a pre-arranged plan by the inspectors and their results give a percentage of pulmonary tuberculosis of 3·5. This means that in the Hampshire schools there are 1800 cases of this disease. A full discussion of the part of the school doctor in the campaign against tuberculosis follows. The investigation points to the malnutrition of many children and the inspectors say, "Ignorance and intemperance, bad management and short-sighted extravagance are, it is true, on every hand, but it must be admitted that most of the poverty and malnutrition is due to involuntary and not voluntary causation. We are unanimously and strongly of opinion that any measure which tends to improve the nutrition of our school children must be a potent—probably the most potent—weapon in the fight against tuberculosis."

Nottinghamshire County Council.—Steady progress is recorded by Dr. H. Handford The percentage of parents attending examinations has risen steadily in the years 1909 to 1912; the figures are 49·6, 50·0, 51·2, and 54·5. The percentage of cases treated for defects notified at inspection has risen also, the corresponding figures being 34·6, 45·9, 41·3, and 63·1. Only the worst dental cases are notified and a vision clinic swells the percentage for 1911.

Gloucestershire County Council.—An important change in administration is recorded by Dr. J. M. Martin, the work of medical inspection having been placed largely in the hands of the medical officers of health of four large combined sanitary districts covering nearly two-thirds of the county. The proportion of untreated defects has fallen from 35·4 to 19·9 in three years. But the percentage found to be tuberculous has gone up from 0 46 to 1·34. This was due to an increase in cases of pulmonary disease discovered by Dr. Madeleine Baker, who had made a special study of the disease and left to become a tuberculosis officer in Wales. Dr. Baker found 64 cases among 2619 children examined by her, whereas two other medical inspectors found only 15 cases amongst 4884 children.

West Riding of Yorkshire.—Dr. J. R. Kaye's report is a well-arranged document; the index is useful, and the list of the medical staff with the number of departments and children under their control gives information which is frequently left out and which might be copied (and amplified) by other authorities. Care committees exist in 83 districts, and valuable work has been done.

Bilston Urban District Council.—Dr. T. Ridley Bailey notes that among 413 children examined before leaving school 30 per cent. had some defect, as against 48·4 per cent. the previous year. The decline is partly attributed to the examination (and presumably treatment) of "special cases" at an earlier period of school career. The report ends by stating that "slums ...... must be abolished," and further, "that destitution and extreme poverty shall be, as they should be, regarded as a disgrace to humanity and civilisation and no longer allowed to exist, whatever may be the cost—in money and endeavour—required for their final eradication." To this conclusion many school medical inspectors will be driven, and we welcome its explicit statement.

Northamptonshire County Council.—Various experiments are recorded of interest, and among them the provision of "exercise corridors open to the air on one side" in four schools and of open-air class-rooms protected from the weather by a light roof in several places. Provision for school gardens is made in all new schools except those for infants only. A comparison of cleanliness of teeth shows urban cleaner than rural children and girls than boys. A reduction in cases of ear disease (1911, 62 cases; 1912, 40 cases) is concurrent with reduction in tonsillar enlargement. Dr. J. H. Mason gives full and good tables of statistics from which interesting comparisons of urban and rural children may be made.

Staffordshire County Council.—Dr. George Reid presents the report of the senior school medical inspector (Mr John Priestley), to which are added some valuable special reports on heart disease, ringworm, and temperatures of school children. The four assistant school inspectors are all women, and each to a large extent is autonomous in her area. "In short, each inspector is made to feel that the children of her schools are her own medical 'flock.'" A very curious numerical relationship is noticed in considering the history of children who have had infectious diseases The figures are the same (with the exception of mumps due to a wrong diagnosis by teachers) for six years, and those for 1910 may serve as an example. The children having had measles are taken as 1000, when the other figures are whooping-cough 452, chicken-pox 252, scarlet fever 173, mumps 83, and diphtheria 44. The geometrical progression is almost uncanny. Another interesting point raised is as to whether some skins "repel lice." It would appear to be the case. The report on heart cases deals with 34,244 children inspected in 1908–09, among whom were 1767 children, or 5·16 per cent., showing some cardiac disturbance. There were 1467 functional, 30 congenital, and 270 organic valvular disease. Dr. Lila S. Greig analyses the cases admirably. The [illegible] port gives two [illegible] les, whooping-cough, diphtheria, and scarlet fever in each week of the year, also a copy of the instructions issued to parents and teachers for dealing with infectious illness. Estimates for the establishment of a school clinic are given.

Cumberland County Council.—Dr. F. H. Morison's report devotes a considerable amount of space to consideration of building and equipment of schools. Some diagrams are given. Of 12,419 children examined, 1·5 per cent. were classed as phthisical, 4 4 per cent. as pretubercular, 2·2 per cent. as weak-chested, and 0 3 per cent. as delicate. The print of this report is too small.

Rutland County Council.—Rupture was found to be actually present or foreshadowed by the existence of large external abdominal rings in 7·2 per cent. of the boys of the entrant and leaver group. Two of these were umbilical hernia, the remainder inguinal. A small dental treatment scheme under the education committee is in operation at Oakham, being privately paid for.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8961 births and 5750 deaths were registered during the week ended Saturday, Feb. 7th. The annual rate of mortality in these towns, which had been 17·0, 17·5, and 18 4 per 1000 in the three preceding weeks, declined to 16 5 per 1000 in the week under notice. [illegible] the current quarter the mean [illegible] towns averaged 17·7, against a [illegible] 1000 in London. Among the [illegible] th-rate last week ranged from [illegible] rd, 8·1 in Walthamstow, 8·5 in [illegible] nd in [illegible] 9 in [illegible] n the [illegible] sles, [illegible] t one [illegible] these [illegible] effield and in Swansea, 1·9 in Burnley and in Barnsley, 2·0 in Dudley, 2·4 in Rotherham, 2·6 in Gateshead, and 3·2 in West Hartlepool. The deaths referred to diphtheria, which had been 70, 68 and 85 in the three preceding weeks, declined to 70 last week; of this number 19 occurred in London, 8 in Birmingham, 4 in Manchester, 3 in Northampton, 3 in Sheffield, and 3 in Aberdare. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 80, 68, and 93 in the three preceding weeks, fell to 66 last week, and included 21 in London, 4 in Liverpool, 3 in Birmingham, 3 in Manchester, and 3 in Rhondda. The deaths attributed to measles, which had been 55, 70, and 79 in the three preceding weeks, declined to 64 last week; the highest annual death-rates from this cause were 1·6 in Middlesbrough, 1·7 in Cardiff, 2·0 in Ipswich, and 5·2 in Burnley. The deaths referred to scarlet fever, which had been 37, 41, and 29 in the three preceding weeks, rose to 38 last week, and included 5 in London, 4 in Birmingham, 4 in Liverpool, 3 each in Manchester, Salford, and Sheffield, and 2 in West Ham. The fatal cases of enteric fever, which had been 21, 17, and 21 in the three preceding weeks, were again 21 last week, of which 8 occurred in London, 3 in Manchester, and 3 in Halifax.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3676, 3567, and 3599 at the end of the three preceding weeks, had declined to 3554 on Saturday last; 379 new cases were admitted during the week, against 388, 375, and 460 in the three preceding weeks. These hospitals also contained on Saturday last 1137 cases of diphtheria, 276 of whooping-cough, 71 of enteric fever, and 65 of measles, but not one of small-pox. The 1441 deaths from all causes in London were 116 fewer than the number in the previous week, and were equal to an annual death-rate of 16·6 per 1000. The deaths referred to diseases of the respiratory system, which had been 400, 421, and 425 in the three preceding weeks, fell to 347 in the week under notice, and were 100 below the number recorded in the corresponding week of last year.

Of the 5750 deaths from all causes in the 97 towns, 190 were attributed to various forms of violence, and 439 were the subject of coroners' inquests. The causes of 51, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Newcastle-on-Tyne, and in 68 other smaller towns. Of the 51 uncertified causes of death last week, 12 were recorded in Birmingham, 7 in Liverpool, 6 in Gateshead, 3 in London, 3 in Bootle, and 2 each in Southend-on-Sea, Blackpool, and South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1207 births and 807 deaths were registered during the week ended Saturday, Feb. 7th. The annual rate of mortality in these towns, which had been 20·4, 20·9, and 20·0 per 1000 in the three preceding weeks, declined to 18·4 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 20·0, against 17·7 per 1000 in the 97 large English towns during the same period. Among the several Scotch towns the annual death-rate last week ranged from 7·6 in Motherwell, 12·3 in Perth, and 14·7 in Greenock, to 23·5 in Kilmarnock, 26·7 in Falkirk, and 31·1 in Hamilton.

The 807 deaths from all causes were 71 fewer than the number in the previous week, and included 68 which were referred to the principal epidemic diseases, against 100 and 91 in the two preceding weeks. Of these 68 deaths, 34 resulted from measles, 15 from diphtheria, 7 from infantile diarrhœal diseases, 6 from scarlet fever, 5 from whooping-cough, and 1 from enteric fever, but not one from small-pox. These 68 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·5, against 1·1 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 29, 51, and 48 in the three preceding weeks, further declined to 34 last week; of this number 18 occurred in Glasgow, 4 in Greenock, 3 in Edinburgh, 3 in Hamilton, 2 in Leith, and 2 in Coatbridge. The deaths referred to diphtheria, which had been 13, 19, and 14 in the three preceding weeks, were 15 last week, of which 9 occurred in Aberdeen and 4 in Glasgow. The fatal cases of diarrhœa and enteritis (under 2 years), which had been 8, 9, and 12 in the three preceding weeks, fell to 7 last week, and included 3 in Glasgow. The deaths attributed to scarlet fever, which had been 8, 15, and 10 in the three preceding weeks, further declined to 6 last week, of which 4 were recorded in Glasgow. The 5 deaths referred to whooping-cough, comprising 4 in Glasgow and 1 in Coatbridge, were slightly below the average in the earlier weeks of the quarter. The fatal case of enteric fever was registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 230, 230, and 189 in the three preceding weeks, further fell to 179 in the week under notice; 33 deaths were attributed to different forms of violence, against 26 and 36 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 665 births and 507 deaths were registered during the week ended Saturday, Feb. 7th. The annual rate of mortality in these towns, which had been 21·6, 23·8, and 24·0 per 1000 in the three preceding weeks, declined to 21·9 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 23·3 per 1000; in the 97 large English towns the corresponding rate did not exceed 17·7, while in the 16 Scotch towns it was equal to 20·0 per 1000. The annual death-rate last week was equal to 25·3 in Dublin (against 16·6 in London and 18·3 in Glasgow), 21·4 in Belfast, 21·8 in Cork, 16·5 in Londonderry, 24·4 in Limerick, and 11·4 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 18·5 per 1000.

The 507 deaths from all causes were 48 fewer than the number in the previous week, and included 37 which were referred to the principal epidemic diseases, against 39 and 21 in the two preceding weeks. Of these 37 deaths, 10 resulted from scarlet fever, 8 from measles, 7 from infantile diarrhœal diseases, 6 from whooping-cough, 4 from enteric fever, and 2 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·6 per 1000; in the 97 large English towns the corresponding death-rate did not exceed 1·1, while in the 16 Scotch towns it was 1·5 per 1000. The deaths attributed to scarlet fever, which had been 12, 2, and 5 in the three preceding weeks, further rose to 10 last week, of which 7 occurred in Belfast. The deaths referred to measles, which had been 6, 8, and 3 in the three preceding weeks, rose to 8 last week, and comprised 5 in Dublin and 3 in Armagh. The fatal cases of diarrhœa and enteritis (under 2 years of age), which had been 11, 9, and 6 in the three preceding weeks, were 7 last week, and included 3 in Dublin and 3 in Belfast. Of the 6 deaths attributed to whooping-cough, which were equal to the average in the earlier weeks of the quarter, 2 occurred in Dublin, 2 in Belfast, and 2 in Newtownards. The 4 fatal cases of enteric fever were recorded in Dublin, Belfast, Londonderry, and Sligo respectively, and those of diphtheria in Dublin and Lisburn respectively.

The deaths referred to diseases of the respiratory system, which had been 130, 153, and 157 in the three preceding weeks, fell to 132 in the week under notice. Of the 507 deaths from all causes, 168, or 33 per cent., occurred in public institutions, and 10 resulted from various forms of violence. The causes of 13, or 2·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

THE undermentioned are restored to the establishment:—Supernumerary Lieutenant-Colonel Hugh C. Thurston, C.M.G., vice A. R. Aldridge, retired (dated Jan. 24th, 1914); Supernumerary Lieutenant-Colonel and Brevet Colonel Sir William B. Leishman, vice M. W. Russell, promoted (dated Feb. 1st, 1914); and Supernumerary Captain Malcolm Leckie is restored to the establishment (dated Feb. 11th, 1914).

Captain Archer Irvine-Fortescue is seconded whilst studying the Japanese language (dated Dec. 21st, 1913).

Lieutenant Francis D. Cairns resigns his commission (dated Feb. 7th, 1914).

The undermentioned Lieutenants are confirmed in their rank:—Robert B. Price, William V. Corbett, Frank C. Cowtan, Noel T. Whitehead, and Henry C. D. Rankin.

Surgeon-General H. G. Hathaway, C.B., deputy director of medical services to the Eighth (Lucknow) Division, has taken up duty at Headquarters, Lucknow Cantonment. Brevet-Colonel and Lieutenant-Colonel Sir William B. Leishman has been selected for appointment as member of the Army Medical Advisory Board as Expert in Tropical Medicine, vice Lieutenant-Colonel C. Birt, who has been placed under orders for service abroad.

Lieutenant-Colonel C. J. MacDonald has been selected for the increased rate of pay under Article 358 of the Royal Warrant for Pay and Promotion. Lieutenant-Colonel N. Faichnie has arrived home for duty from Meerut Cantonment. Lieutenant-Colonel A. L. F. Bate has been transferred from the Military Hospital at Preston to the Woolwich District. Lieutenant-Colonel C. W. H. Whitestone has been selected to hold charge of the Military Hospital at Hilsea. Lieutenant-Colonel G. W. Tate has embarked for a tour of

service in Bermuda
been appointed to
Lucknow Cantonme
has been selected to
the Royal Herbert
Colonel A R Aldridge, who has retired.

Major E. W. W. C
as Clinical Patholo
Aldershot. Major
of service in India
Northern Army. M
hold charge of the
ment. Major W. S. Harrison has been selected as Specialist Sanitary Officer at Jamaica, vice Major H P. W. Barrow. Major J. D. Alexander has been transferred from the Military Hospital
G. A. Mo
Major A
O'Reilly
Arsenal,
for a tou
of the N
ferred fro
Major W.
the Military Families Hospital at Chatham. Major E M. Purser has been transferred from the Military Hospital at Sialkot to Meerut Cantonment Major H. M. Morton has joined at Glasgow Major R. V Cowey has been selected as Specialist in Midwifery and Gynæcology at Bulford, Salisbury Plain. Major E H. Condon has relinquished charge of the Military Hospital at Cardiff, and embarked for a tour of service in India with the Seventh (Meerut) Division of the Northern Army. Major J H Barbour has been selected as Medical Examiner of Recruits on the London Recruiting Area Staff.

Captain F. A H. Clarke has been transferred from Darjeeling Cantonment to Calcutta for duty at the Military Hospital Captain C. W. Bowle has arrived home for duty from Jubbulpore Cantonment. Captain A. C. H. Gray has
tr Medical College. Captain
T edical charge of the Royal
A. H. J. Crossley has taken
u Captain R J. Franklin
has been transferred from Solon Cantonment to Ferozepore. Captain D. Ahern has joined the Irish Command Captain H. W. Russell has been selected for appointment as Specialist in the Prevention of Disease to the Sirhind Brigade and placed in charge of
Laboratory at Ambala Cantonn
has been transferred from charg
Hospital at Glencorse to Glasgow Captain A C Elliott has arrived home for duty from India Captain A. G Wells has been appointed for duty on board the transport s s. *Rewa*, leaving Bombay for Southampton on Feb. 13th. Captain R. J. Cahill has been appointed to hold charge of the Military Hospital, Athlone Captain W. Mitchell has arrived home from India for duty. Captain

the Military Hospital at Barian to Rawal Pindi Cantonment Captain A. N. R. McNeill has arrived home for duty from Mauritius Captain G G. Collett has been selected as Specialist in Dermatology and Venereal Diseases to the Seventh (Meerut) Division Captain F J. Stuart has been granted six months' general leave of absence home from India Captain J R. Foster
Hospital at Dublin for duty
transferred from medical
Military Hospital at Belfast Captain R. Rutherford has arrived home for duty from Singapore. Captain C Scaife has been detailed from the Sixth (Poona) Division for duty on board the transport s s *Plassy*, leaving Bombay on March 12th for Southampton Captain A W Byrne has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary) to the
F L. Bradish has been ap
arrival home from India
transferred from the Mil
Lebong Cantonment.

Lieutenant P A. With, Lieutenant S. J. Barry, and Lieutenant C. J. H Little have embarked for a tour of service in India.

INDIAN MEDICAL SERVICE.

Colonel A. O. Evans has b ber
of the Educational Council of
Burma, in succession to Co rs
Colonel W. R Edwards, C.M.G., has taken up duty as Officiating Inspector General of Civil Hospitals in Bengal Presidency during the absence on leave of Colonel G F. A. Harris, C.S I The services of Colonel J. Crimmin, V C, C B, C I.E, have been placed at the disposal of the Commander in Chief by the Home Department of the Government of India

Lieutenant Colonel P. B Haig has been granted privilege leave of absence home from India for three months, combined with furlough for one year and six months and study leave for three months. The services of Lieutenant-Colonel W E. Jennings have been placed at the disposal of the Commander in Chief by the Home Department of the Government of India. Major E C. McLeod has been
appointed
in Assam.
appointed
Institute a
years' leav
Superintende
six months' c

Captain F
District The
Superintende
replaced at
Government of India. C
to officiate as Assista
Bacteriological Laborat
during the absence on l
The Governor of Bom
Har Commissioner for
the S C Chucker-
but been appointed
to c Captain A S
Les ssistant Super-
inte ntal at Madras.
Captain F. C Fraser has taken up duty at North Arcot as District Medical Officer Captain H M. Brown, Deputy Sanitary Commissioner of the Bihar District, has been appointed to officiate in sanitary charge of the Chota Nagpur District The services of Captain R E Flowerdew have been placed temporarily at the disposal of the Government of Madras Presidency for employment in the Jail Department Captain R L Gamlen has been transferred to the temporary half pay list. Captain N. M. Wilson has taken up duty at Gurdaspur

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant V
George Albe
University C
Lieutenant (on

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd North Midland Field Ambulance, Royal Army Medical Corps: Captain Albert J. Riddett to be Major (dated Feb 7th, 1914).

1st Northern General Hospital, Royal Army Medical Corps Captain William J Phillips resigns his commission (dated Feb 7th, 1914)

1st Western General Hospital, Royal Army Medical Corps: Captain Claude Rundle

1st Highland Field
Corps Major Thomas
(dated Nov. 1st, 1913)

3rd Northumbrian Field Ambulance, Royal Army Medical Corps James Maurice Ford to be Lieutenant (dated Dec. 21st, 1913)

1st West Riding Field Ambulance, Royal Army Medical Corps: Henry Norman Goode to be Lieutenant (dated Dec 9th, 1913)

3rd West Riding Field Ambulance, Royal Army Medical Corps Captain John W Stokes to be Major (dated Feb. 11th, 1914).

West Riding Clearing Hospital, Royal Army Medical Corps Captain Francis Darlow, from the 1st West Riding Field Ambulance, Royal Army Medical Corps, to be Captain (dated Feb 11th, 1914)

Sanitary Service Lieutenant John James Buchan, from the 3rd West Lancashire Field Ambulance, Royal Army

Feb. 11th, 1914).

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The February issue of this journal opens with a paper by Major L. W. Harrison on Complement Deviation in the Diagnosis of Gonococcal Infections He has made a number

of experiments [illegible]
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cases of [illegible]
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and [illegible] out
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with [illegible] medical
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[illegible] causing
[illegible] Strain, by
[illegible] Harvey,
[illegible] from the
[illegible] Colloids, by
[illegible] and Work of
[illegible] before the
[illegible] -General Sir
[illegible]

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

The Royal Infirmary.

THE annual meeting of the trustees of the
Infirmary was held on Feb. 4th, the Ea
Derby—the retiring President—occupy
chair. Notwithstanding an [illegible]cellent
work, the committee had [illegible]
income was not in proportion
[illegible] anxiety was expressed
[illegible] voluntary [illegible]

[illegible]
the current quarter
towns averaged 20·0
ish towns during t
towns the ann
Motherwell, 12
Kilmarnock
Hamilton.
The 807 deaths fro[illegible] all cau
number in the previous week,
referred to the principal
and 91 in the two precedin[illegible] their
resulted from measles, 15 f
diarrhœal diseases, 6 from [illegible] the L
cough, and 1 from enteric fe [illegible] been re
These 68 deaths from the [illegible] of the new
equal to an annual dea
97 large English town [illegible] of the under
which had been 29 [illegible] the *Liverpool*
further declined
in Glasgow [illegible] which enabled th
2 [illegible] 150 milligrammes of radiu
ance Act came into operation
that of the in-patients admitt
were insured persons, and
out-patient department ab
hospital had been recognised
ment Board as an instituti
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labour
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the generosity of an anonymous donor, the electro cardiograph had been installed in the electro therapeutic department. The total number o in-patients admitted was 4087, an increase of 63 as compared with the previous year. While th number of out-patients was almost the same as i 1912, there had been an increase of over 8000 re attendances for the dressing of wounds and mino injuries. With increased work the committee regretted to report a reduction of £107 in the total subscriptions received. In the Hospital Sunday and Saturday Funds contribution there was a drop of nearly £500. Mr. Wade Deacon, the chairman of the committee, seconded the adoption of the report. The Lord Mayor (Mr. H. R. Rathbone) proposed a vote of thanks to Mr. Holford Harrison for his services as treasurer and his acceptance of re-election to that office. Referring to the difficulty of obtaining funds for charitable institutions, the Lord Mayor did not altogether agree with Lord Derby's diagnosis as to the cause of the difficulty—i.e., that it was due to the Insurance Act—but attributed it rather to increased facilities of communication, so that more people were residing outside the city area and became less conscious of the needs of those who resided in the city and of their responsibilities to the city in which their money was made. The charities of Liverpool were to a very large extent supported by a small number of extremely generous people. Votes of thanks to the medical staff having been passed, the Marquis of Salisbury was elected President for the ensuing year.

The Treatment of Tuberculosis.

The city [illegible] il has given its assent this month
the com[illegible] scheme of the port sanitary and
ospitals c[illegible] ee for the prevention and treat-
nt of tu[illegible] osis. The deaths from all forms
tubercu[illegible] Liverpool have averaged 1591
year [illegible] last three years. There are
[illegible] e 4000 cases per annum to be
ed. [illegible] oratio[illegible] 80 beds at the
erle[illegible] and 2[illegible] ds at the Park Hill
atm[illegible] pulmonary tuber-
£8000 [illegible] has been spent.
ade with various
or the treatment
osis. The new
isting agency of
odation that will
erley for adult
ildren. The beds
Delamere Forest,
beds in the local
will be three
ent—at Mount
Dingle Hill, and at
liary treatment
e in the scheme
£62,250. Towards
Government grant
), leaving a balance
The cost of
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ensaries, salarie
rical staffs, &c
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ribers of the

Wallasey Cottage Hospital was held at that institution on Feb. 8th, Mr. R. W. Preston, J.P., presiding. Mr. E. S. Wilcox, in presenting the forty-eighth annual report, which he described as probably the worst in the history of the hospital, said the burden of debt with which they began the year had considerably increased in spite of the urgent appeals then made at the time of great prosperity in the business world. Experience showed that although the Insurance Act was now in full operation, the need for voluntary hospitals was as great as ever, and an urgent appeal was made for further subscriptions.

Medical Students' Annual Dinner.

The medical students' annual dinner was held at the Exchange Station Hotel on Jan. 31st, Dr. T. B. Grimsdale being in the chair and Mr. R. E. Kelly in the vice-chair. Over 100 of the students and teaching staff were present, and the evening proved a very enjoyable one.

Feb. 9th.

MANCHESTER.

The Finances of the Royal Infirmary.

THE considerable sum of £7000 is still wanted for the new central branch for accidents and out-patients. An appeal was made for £25,000 to enable the new branch to be opened free of debt, but so far only £18,000 have been promised or received. In the Royal Infirmary itself the number of in-patients under treatment during the year, as will be seen from the annual report which has just been published, was 9049, as compared with 8575 in 1912—i.e., an increase of 474. None the less, the infirmary has *not* been able to cope with the demand upon its in-patient accommodation, for on Dec. 31st of last year no fewer than 548 persons were waiting to enter the hospital for the purpose of undergoing operations of a serious character. A new surgical unit of 60 beds is shortly to be opened. This will entail an additional annual expenditure of £3000. In order to enable the ordinary income to meet the ordinary expenditure £9271 is needed.

Hospital Sunday in Manchester.

Hospital Sunday was observed on Feb. 8th, and everywhere throughout the town notices were widely placarded. There is no doubt that the needs of the medical charities have greatly increased, while the financial help from the churches has diminished. Birmingham and Liverpool subscribe twice as much as Manchester on their Hospital Sundays. The amount subscribed in Manchester last year was only £3135, as compared with £6248 in 1874. Last year the expenditure of the hospitals and other medical charities advanced by £10,000, the total number of patients treated being 344,000. The Lord Mayor has made an appeal for £6000 this year. The actual expenditure of the hospitals last year was £148,000, resulting in a deficit of £20,000 on the ordinary income of the hospitals.

Annual Meeting of the Hospital for Skin Diseases.

At the annual meeting of the subscribers to the Manchester Hospital for Skin Diseases on Feb. 6th it was stated that the debt amounts to £1410. A fact of some importance was reported—viz., that apart from private patients the hospital received £970 in voluntary contributions from the poor people who were treated in the hospital, and this was more than was received from the outside public. Complaint was made of the inadequate support received from outside towns which sent in large numbers of patients. Bolton sent during the year 204; Bury, 186; Crewe, 172; Macclesfield, 155; Oldham, 515; and Stockport, 480.

Estate for Sanatorium at Rochdale.

The Rochdale town council has decided to purchase an estate of about 100 acres called the Springfield estate, Marland, for the purpose of a sanatorium for the treatment of tuberculosis. It is situated about one mile from the centre of the town and will cost from £12,000 to £13,000. About 16 acres will be utilised for the present scheme, and the mansion house will be used as an administrative block.

Bequests to Manchester Charities.

Mr. James Ferguson Power, of Eccles, has left £2000 to St. Mary's Hospitals and the Manchester and Salford Lying-in Hospital and Dispensary; £1000 to the Manchester Infirmary, Dispensary, and Lunatic Hospital or Asylum; and £500 to the Manchester and Salford Blind Aid Society.

Altrincham Hospital.

The appeal of the board of management for the completion of the fund for the enlargement and equipment of this hospital, which was made a week ago, has already resulted in the receipt of £1900 towards the £5000 required.

Meeting of the British Association in Manchester in 1915.

Manchester is taking time by the forelock and has begun already to make preparations for the meeting which will begin on Sept. 8th, 1915. At a meeting held on Feb. 3rd in the Town-hall to make arrangements for the reception of the association in the city a local executive committee, representative of every interest in the city, was appointed, and it was also resolved that a local fund should be raised to defray the expenses of the meeting. This will be the fourth visit of the association to Manchester. The first visit was in 1842, the second in 1861, and the third in 1887, when Sir Henry E. Roscoe was president, and which was one of the greatest meetings in the history of the association. The actual number of members reached 3833.

Negligence of Panel Patients.

New medical cards under the National Insurance Act have been issued in Manchester. The negligence of persons entitled to medical benefit under the Act in Manchester is almost incredible. Through the "dead letter" office no fewer than 54,000 medical cards posted by the Manchester Insurance Committee have been returned. Nearly 280,000 medical cards were sent out, so that about one-fifth of the whole issue failed to be delivered owing largely perhaps to change of address. Meanwhile the Manchester Committee has met the difficulty by issuing special circulars to medical practitioners requesting that:

> Until further notice doctors will not refuse medical treatment to an insured person who has not yet received his new medical card, but can produce the old medical ticket or other satisfactory evidence of his eligibility for medical benefit.

Feb. 10th.

contagion, and the same is the case at other hospitals. Moreover, that the disease is not hereditary, he said, is shown by the fact that in America there were lepers among the immigrants of two or three centuries ago, yet in 1888, when an inquiry on this subject was instituted, it was found impossible to find any among their descendants. It would seem that leprosy is contagious only in a completely unhygienic environment, consequently it is necessary to exercise an effective control, but one which in view of the long duration of the disease shall be much less rigorous than that practised uniformly in all the contagious and epidemic diseases. The report considers it would be useless, therefore, to create special establishments for confining lepers in localities where contagion does not occur, and where neither overcrowding nor uncleanliness prevails. Only in the latter case need the lepers be confined, and this measure will have special application to vagabonds and mendicants. It is proposed to refuse entrance to French territory to foreign lepers, and to expel such as are there if they refuse to submit to the French regulations. Lepers incapable of propagating the disease are to be kept under surveillance, however, and forbidden to exercise certain occupations, particularly those concerned with the food-supply, and this surveillance will be extended to those who live with them. Competent medical men will be appointed to check the diagnosis in each case notified to the authorities. They will advise what steps should be taken and control their carrying out. It is held to be necessary to apply the regulations adopted to the colonies and French protectorates, where the problem has a greater importance than in the metropolis. In the discussion that ensued Professor Gaucher opposed these conclusions, holding them insufficient, and delivered a sharp attack on the general attitude of the authorities and M. Mirman. He divided lepers into three classes, each of which requires a different prophylactic organisation: 1. The indigenous lepers, of which a small group has existed for a long time on the Italian frontier of Provence, in Auvergne, and in Brittany. These cases are known to the inhabitants and are practically isolated, so that they spread no contagion. 2. French lepers returning from the Far East, where they have contracted a much more serious form of leprosy, with contagious ulceration. These should be confined in special hospitals and surrounded by rigorous prophylactic measures. 3. Finally, the foreign lepers, whose entry into France should be interdicted, and those already there should have their choice of confinement or leaving the country. In this respect no surveillance exists, and it must be established. He instanced two cases of lepers recently come to Paris. The isolation of colonial and foreign lepers could be accomplished on some island off the seashore, as has been done in other countries. As to the indigenous lepers, it would suffice to take a census of them and subject them to local surveillance. The isolation at home, of which the Bill brought forward by M. Netter speaks, Professor Gaucher considered to be impracticable. If the leper appeared to be but slightly affected the surveillance would soon relax until it ceased; if he showed ulcerations and required medical care the danger would be just as great for his *entourage*, and complete isolation in hospital would be preferable. After a close vote, which supported the first two of M. Netter's conclusions, the Academy finally referred the entire report for re-examination by the Special Commission.

The Nobel Prize for 1914.

The Academy of Sciences and the Caroline Institute of Stockholm, in whose hands lies the awarding of the Nobel prize, have begun to draw up the lists of candidates for the prize of 1914. The faculties and societies of France that have been consulted as to the French choice have unaminously nominated Professor Bouchard.

Kala-azar at Marseilles.

A child in a Marseilles hospital has been found to be suffering from kala-azar, or leishmaniasis. At the suggestion of Dr. Nicolle, director of the Institut Pasteur at Tunis, Dr. Pringault examined 50 cadavers of dogs at the home for stray dogs at Marseilles, and discovered signs of leishmaniasis in the bone marrow of one of them. The disease, therefore, is existent there, though it has not hitherto been noted. In point of fact, kala-azar is to be found in all the large towns of the Mediterranean, and even at Rome and Turin. The disease attacks only infants from 6 months to 3 years of age, and is nearly always fatal. The transmission of the parasite by dog fleas having been well established, the Société de Pathologie Exotique has called on the Government to take measures to prevent the ingress of dogs from countries where kala-azar is endemic. An inquiry held at Marseilles seems to show that the case observed by M. Pringault is an isolated one, for the other veterinary surgeons of Marseilles have never observed this disease before. The exaggerated statements of the lay press, however, which confounded kala-azar with Indian plague, created quite a panic for many days.

Feb. 9th.

BUDAPEST.

The Sick Clubs and the Medical Profession.

Since the coming into force of the new Workmen's Insurance and Compensation Act the membership of sick clubs in industrial centres and in cities and towns in general has increased immensely with a proportionate falling off in the number of paying patients belonging to the so-called middle classes. In towns containing only a moderate number of industrial undertakings the members of sick clubs are from 26 to 30 per cent. of the inhabitants, while in those which depend mainly on factories, workshops, and similar industrial establishments this proportion rises to 45 or 50 per cent. It is therefore easy to understand that the medical profession looks unfavourably on associations which aim at supplying well-to-do persons with medical aid at low rates. An incident of this kind has occurred at Nagyvarad, where the Baron Hirsch Society, so called after the well-known philanthropist, now deceased, requested the local branch of the Hungarian Medical Association to allow members of the association to occupy two positions with annual salaries of 2000 kronen each (£80), the number of members belonging to the society in question being only 140. The branch association refused the society's request, and the members of the branch have unanimously resolved to decline attending patients connected with the society. The motive for this is not insufficiency of the remuneration offered, because 2000 kronen per annum are fair remuneration for attendance on 70 families, but the association is opposed to any society or combination formed for the purpose of extorting cheaper medical aid from a profession which is so crippled by the Insurance Act. The Hirsch Society has now been advertising for more than six weeks, inviting applications from medical men willing to fill the positions in question, but to the credit of the medical profession it has not yet found a single candidate in the whole country.

Hæmorrhagic Small-pox in Servia.

The Minister of Public Health recently issued an official report announcing that our country is entirely free from cholera, and now a new epidemic is threatening us from Servia, where in the second half of January there was an outbreak of hæmorrhagic small-pox with about 100 cases and 30 deaths up to the present time. The Servian Minister of Internal Affairs has ordered compulsory vaccination. The disease has now spread into Hungary where the first three cases of hæmorrhagic small-pox occurred on Jan. 30th. The Hungarian Minister of Public Health has declared that if further cases occur in any other part of Hungary, he will order compulsory vaccination of all persons living in the infected area.

Conflict between the Insurance Companies and the Hungarian Medical Congress.

At the annual Congress of the Hungarian Medical Association held last September the subject of the fees for making medical examinations for life insurance companies was considered, and it was resolved that when the sums insured were under 5000 kronen the fee should remain at 10 kronen, but that for sums of 5000 kronen and upwards a fee of 20 kronen (16*s.* 8*d.*) shall be charged. Although the medical profession has not raised these fees since the year 1888, and although the present increase is moderate, the elected committee of the insurance companies have declared that they will not consent to the proposed increase, but will rather dispense with medical examinations when the sum insured is under 5000 kronen (£200), and thereby deprive the profession of a considerable income, because in Hungary insurances for even 1000 kronen can be effected, and the fee even in such cases was 10 kronen. If the insurance companies dispensed with these examinations, then they will have to pay the fee of 20 kronen asked when the sum insured amounts to 5000 kronen and upwards. The association cannot modify the resolution of the Congress, which will accordingly be binding on the members, although several branches of the association are in favour of the insurance companies, which quite recently proposed a compromise—namely, that they shall pay 15 kronen for insurances between 5000 and 10,000 kronen. With this modification our fees would be equal to those paid by the insurance companies in Austria and Croatia. The association has sent circulars to all its members informing them that to make insurance examinations for fees lower than have been decided by the association would result in the other members of the association breaking off professional relations with them.

The New Hungarian Universities.

The foundation-stones of two new universities will be laid this year, one in Pozsony (Pressburg), about 40 miles from Vienna, and the other in Debreczen, the most considerable town in the midst of the great Hungarian plain. The universities will have four faculties—namely, theology, law, philosophy, and medicine. The three former will commence work at the end of the present year, but the medical faculty will be in abeyance for the next two or three years because the large university hospitals which are in course of erection will require several years for their completion. There will be difficulty in deciding where the necessary professors are to be got. In Hungary it has been the custom for many decades that people desiring to have the best medical advice go to the capital. This, of course, is extremely profitable for the university professors, their annual incomes varying from 100,000 to 400,000 kronen (£4000 to £16,000). Of course, a Budapest professor cannot be expected to exchange his chair in the capital of the country for a chair in a provincial university, where even his salary would be less. In the provinces, though there are excellent practitioners in great number, there are few who could fill the positions in the universities. For these reasons the Minister of Public Instruction has advised the directors of the various clinics to employ henceforth twice as many demonstrators and other assistants as before in order to have a staff from which the fittest might be selected to fill the chairs of the new universities.

Responsibility of a Medical Man for the alleged Death of a Patient from Poisoning.

In a large provincial town a patient in a charity hospital was ordered to take tincture of digitalis with tincture of strophanthus, the quantity dispensed being 40 grammes (1½ oz.). These large quantities were dispensed partly from economical motives, because two bottles containing 20 grammes each cost nearly twice as much as one bottle containing 40 grammes, and partly because the man was suffering from uncompensated heart failure, so he would have to take the medicine for a considerable time. It happened, however, that the patient, who was an uneducated person, thought fit to drink the whole bottleful at once, in order to be "quickly cured," and this he did when the nurse had left the ward for a few minutes. In about an hour he felt sick, went out of the ward, vomited, and afterwards proceeded to the water closet, where he was found dead in the course of ten minutes or so. At the inquest the police pathologist stated that the man died from syncope. The internal organs were sent to the forensic laboratory for chemical analysis, but the experts there could not satisfy themselves that poison was present in a quantity sufficient to cause death. Notwithstanding this evidence the physician of the ward and the nurse were charged with manslaughter by carelessness. The court was of opinion that a drug which contained poison ought to be kept in a special poison receptacle, as directed by the hospital rules, but this the accused neglected, and therefore they were responsible for the death of the patient. Evidence was given that it would be impracticable to keep such drugs as tincture of digitalis in a special receptacle perpetually locked up. It was shown that in this case the patient being a man of advanced age with an incurable disease might die suddenly from heart failure, and this was the more probable as he had already vomited up his medicine. On account of mitigating circumstances both the physician and the nurse were acquitted, although the public prosecutor appealed to the higher court in support of his contention that they ought to be punished.

Feb. 8th.

Indian Medical Service are being strongly advocated in a certain section of the Indian press:—(1) The military and civil departments to work entirely independently of each other, and to do away with a system under which all the more lucrative civil posts are filled by members originally recruited for military service; (2) all important Government appointments to be whole-time ones, thus offering more favourable conditions for the establishment of private practitioners; (3) professorial appointments to be recruited directly from England; and (4) improving the present conditions of the subordinate services, both civil and military, as regards pay, &c., and opening up a few more higher appointments to both classes.

Ootacamund.

This queen of hill stations in India is at last to have an improved slaughter-house on a better site. The Government has decided to give Rs. 25,000, equal to the cost of constructing slaughter-houses to the design and scale of the existing buildings, provided the latter and the present site on which they stand are handed over to Government. The plans and estimates for the new buildings amount to Rs. 43,900. The council has deferred acceptance until it has the opinion of a competent authority. The council, has brought forward proposals for a new reservoir for an additional supply of water, but the sanitary engineers have replied that the existing supply should be first fully utilised.

Jan. 7th.

Obituary.

JULIA COCK, M.D. BRUX., L.R.C.P. IREL., L.R.C.S. EDIN.,

CONSULTING PHYSICIAN TO THE NEW HOSPITAL FOR WOMEN, AND DEAN OF THE LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

THE death of Dr. Julia Cock occurred on Feb. 7th after a long illness.

Julia Ann Hornblower Cock was born at Shrewsbury in 1860. Early in life she felt the need of a wider sphere than that of home for developing her powers, and she found her opportunity in 1877, when she joined the group of pioneer women who were opening the medical profession to their sex. She came to London in that year and entered as a student at the London School of Medicine for Women, which had at that time only recently been founded. Here she worked for five years, and obtained various distinctions, including the prize in Medicine. At that date the only registrable qualification open to medical women was that of the Licence of the Royal College of Physicians of Ireland; she obtained this qualification in 1882, and at the same time the Licence of Midwifery from the Rotunda Hospital, Dublin.

Miss Cock then settled in Braintree, where she acted as medical officer to the Braintree and Bocking Cottage Hospital, and at the same time she was resident medical officer at the Sunnyfield Convalescent Home. In 1889, when a qualification in surgery as well as in medicine became necessary in consequence of the change in the law, she became a Licentiate of the Royal College of Surgeons of Edinburgh, and, possessing then a double qualification, in 1890 she passed the examination of the M.D. Brussels with honours.

In 1887 Miss Cock was appointed a member of the out-patient, and in 1892 of the in-patient, staff of the New Hospital for Women. For 23 years the interests of her professional life centred round her work as visiting physician to the hospital. She was an accurate observer, her ardour for scientific research was exceptional, and she was an admirable clinical teacher. Although no medical school was attached to the New Hospital, there was keen competition among the students and young graduates for clerkships in her wards, and her high standard of work and her enthusiasm inspired generations of medical women. She gave them as an ideal the aspiration to record faithfully and possibly to be able to add some small contribution to medical knowledge. The equipment and the development of the pathological department of the New Hospital for Women owed much to Miss Cock.

For 15 years Miss Cock acted as joint lecturer in medicine at the London (Royal Free Hospital) School of Medicine for Women. Her administrative ability was recognised early, and for many years has been of inestimable service in the medical school. For 11 years she held office as dean of the school, and previously she had worked for many years in the capacity of sub-dean in coöperation with Mrs. Garrett Anderson, who was then dean. The welfare of the school was constantly in her mind, and the high place it has taken in recent years is largely due to her wise statesmanship. She devoted herself heart and soul to its interests, and this at a time when the burden of debt arising from the extensive building operations needed all the care possible; and it may be taken as a measure of the success of her administration that when she has been compelled by death to relinquish the arduous duties of the post of dean the medical school is free from debt. Her loss will be severely felt in the carrying out of the difficult tasks of reorganisation rendered necessary by the suggestions of the University of London Commission. One of her chief aims in the administration of the school was to encourage self-government among the students and the spirit of freedom and sense of public duty. She wished the school life to fit the students to take their part later in public and professional life—in other words, to train them in citizenship. There were hardly any rules in the school, but she instituted the offices of students' representative, both in the hospital and the school, by which the students themselves elected one of their body to be in special communication with the dean, and so to take a share in the government of the school. Later, she instituted the students' council, a representative parliament of the students in which all school affairs were fully discussed. For many years she was president of this council. One of the last projects which she had in mind was the reorganisation of the students' union on a wider basis and on more permanent lines. She attached great importance to the training of medical students in order to develop a wider outlook on life. She never sought for or encouraged personal intimacy with the students, but no student who sought her advice failed to find sympathy and understanding. She attached little value to popularity or to professional success except from the scientific point of view.

She held several other medical posts; she was medical examiner for the Board of Education; medical examiner of female proposers for Government Insurance; medical inspector of the North London Collegiate School for Girls and of the Camden School; and she was a past president of the Association of Registered Medical Women. Miss Cock made several contributions to medical literature; she wrote a memorandum on the medical inspection of secondary schools for girls, published in the Reports of the Royal Commission on Secondary Education. The article on Rheumatoid Arthritis in the Encyclopædia Medica was also from her pen; and amongst many interesting cases published was one case of malignant endocarditis in which the gonococcus was present in the blood and tissues. Her chief clinical work was on the digestive system. She was a pioneer in this country of the medical inspection of schools, of the importance of which she was firmly convinced many years before it was generally accepted.

In private life she was greatly loved and honoured, and her loss is deeply mourned by many personal friends.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF INCIPIENT AND UNCONFIRMED INSANITY.

To the Editor of THE LANCET.

SIR,—It is with great interest I have read Dr. Robert Armstrong-Jones's paper on the Treatment of Incipient Insanity and the discussion that followed, and this morning the perusal of your leading article and the letter from Dr. H. Rayner decided me to place before you the views of one who for 40 years has been treating cases of mental disease in private houses and in an asylum. Some thirty years ago I wrote a book on this very subject, and with his special permission it was dedicated to the man who had the care of the insane so much at heart—the late Lord Shaftesbury, who I may say had every sheet of the book before him, and who made certain corrections therein before he allowed his name to appear on the dedication page.

I have always maintained, and can bring abundant evidence to prove my assertion, that a large number of early cases of insanity have a far greater chance of getting better in properly managed private homes with suitable companionship and with skilled medical supervision than in our large asylums for the insane, wherein individualism is so much lost and where, to a very large extent, patients are herded in large numbers together.

To prove my contention I may point out the fact which Dr. Armstrong-Jones overlooked—that in spite of the far more humane treatment of the insane, in spite of the palatial buildings erected for their reception, and in spite of the large increase in the region of pathological research in our asylums, the regrettable fact exists that the percentage of recoveries in these institutions is less to-day than it was in the decade of 1860–1870. Some few years ago there was a very bitter feeling between those engaged in the treatment of mental disease and the neurologists. The public were beginning to feel that to go to a mental specialist meant but one advice—certification and an asylum—and this they dreaded, and to the neurologist they appealed, and the patients were treated by them in private houses and in homes. Occasionally we heard of disasters, caused in the majority of cases by inadequate supervision, but we did not hear of the many cases that got well without the necessity of certification or asylum treatment. To-day I believe I am right in saying that many of our leading mental consultants are as opposed to immediate certification of patients as were the neurologists of ten years ago.

It is therefore as clear as daylight that the law as it at present exists regarding the treatment of the insane is in many cases evaded, and it may be, as Dr. Armstrong-Jones points out, that many incipient cases are housed in surroundings not suitable, with inadequate supervision, and with no proper safeguards as to proper and kind treatment; but surely Dr. Armstrong-Jones knows there are many medical men and others with experience in this class of case who can be relied upon to do their duty by patients entrusted to their care, and whose work would be greatly lightened and their anxieties much lessened if such an Act as has so long been suggested could be brought into being, and notification of such cases for six months' treatment take the place of the present hated system of certification. This notification would be to the Commissioners in Lunacy, who would have the right of visitation, and no doubt those medical men who were known to have special knowledge and special provision for such treatment would be allowed to take a few such notified cases. I am satisfied that the hatred of certification and the dread of doing an illegal action is at the present day a great cause of early cases not being placed under proper care quickly enough. I firmly believe if such notified cases came into the statistics of the Blue Book of the Commissioners in Lunacy the recovery rate of insanity would soon be greatly increased.

With regard to the poorer classes, it is to my mind incomprehensible that the voluntary boarder clause has not been extended to county and borough asylums. I have long urged this in committees I have sat on and in many discussions in which I have taken part.

I am, Sir, yours faithfully,
LIONEL A. WEATHERLY, M.D.Aberd.

Bournemouth, Feb 7th, 1914

MADRAS CITY WATER-SUPPLY.

To the Editor of THE LANCET.

SIR,—In your leading article of Jan. 31st on Major S. P. James's paper *re* "Protection of India from Yellow Fever" you call attention to the evils of intermittency of public water-supplies and domestic storage of water, and class Madras City with ports demanding storage for 24 hours in certain of its limits, "pressure being only put on for a short time daily." The Madras water-supply is a gravitation system, the distribution of which has been extended to excess to meet the needs of a rapidly increasing population. Hence, during the hours of maximum demand, there is a portion of the city at the periphery of the system which obtains a mere dribble. My object in drawing attention to a trivial variation of your account, and your rightly pointing the moral that the authorities of these ports should waken up and remedy mistaken modes of supply, is to state that Madras City is in the act of putting matters right.[1]

I would add that this is not an instance of "The Sanitary Awakening of India" (a period practically limited to 1911–13, according to a recent author), but of what that euphemism means—namely, where the attention of anyone who is ignorant of this most interesting and well-investigated epidemic, or the System of D'Arcy Power and Murphy may be consulted, but the literature is too abundant even to epitomise.

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[1] All India Sanitary Conference, Madras, November, 1912. Paper by J. W. Madeley, M.A., M.I.C.E., &c., Special Engineer, Corporation of Madras.

I regret that the word "involution" in the term "involution forms" should have puzzled Mr. Ross, or that he should have consulted a dictionary which told him that the word meant "involved." It is one which is in everyday use amongst bacteriologists to denote a phenomenon with which they are perfectly familiar. Had Mr. Ross consulted Muir and Ritchie's "Bacteriology," or almost any elementary text-book on the subject, he might have learnt what the word means. If any pathologists use the word loosely, to mean something which they do not understand, I leave them to his mercy.

I did not deal with the prevention of syphilis in my article, because it was not an article on the prevention of syphilis. Prevention may be better than cure, but it does not follow that the question of cure may not be worth the attention of medical men who may be called on to treat the disease any day of their lives.

I suspect that the reason why I am submitted to this catechism is my statement that I see no reason for assuming any form other than that of a spirochæte in the life-history of the organism of syphilis. Most pathologists would, I think, have made a very much more definite pronouncement on the subject, but my remark (which was very carefully considered) appears to me not only true but self-evident. To realise this, make a similar series of statements about tubercle. The tubercle bacillus occurs as a bacillus in tuberculous lesions of all sorts and at all stages. It can be cultivated outside the body for many generations, during which (except for a few occasional bodies which are probably involution forms) it remains a bacillus. Therefore, there is no necessity for assuming any other form in its life-history. If Mr. Ross asks "Why?" to this statement I am afraid I can only say that it is a matter of logic. His analogy of malarial crescents is entirely beside the point unless he has cultivated the crescents for many generations outside the body, and has reproduced the disease with the pure cultures.

Lastly, with regard to his statement that the best way to prevent syphilis is to find out the exact truth concerning the parasite which causes it, I must point out that we have a method which is tolerably efficacious in the prevention of small-pox, although our knowledge of the organism which causes that disease is singularly deficient.

I am, Sir, yours faithfully,

Harley street, W., Feb. 9th, 1914. W. D'ESTE EMERY.

THE TUNING-FORK IN THORACIC DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—I understand that Mr. James Cantlie has been using a tuning-fork as a means of diagnosing enlarged organs, or effusions into the pleura, and the like. Allow me to say that this is not a new idea. I have applied a tuning-fork in exploring the chest for many years, the notion first coming to my mind after reading the late Dr. Stone's lectures before the Royal College of Physicians some time back in the "eighties," if my memory serves.

A tuning-fork is of great assistance in examining the chest, but it is especially advantageous in marking out lung cavities or dilated tubes. Even in these conditions certain physical factors, such as the presence of much fluid or of pus, will lessen the diagnostic aid of the fork. But when a cavity is dry the reverberation of the dominant note is distinctly increased over the cavity, and is diminished as the instrument is carried away from the lesion. Again, in men with hard, almost solid, ribs the sounds are better conducted, as one would expect, than in children and young people with more elastic ribs, which are not such good conductors.

One point I have observed. Different cavities have different dominant notes, and therefore respond varyingly to a fork in G or in C or other note. This I believe is in accordance with the experience of speakers, clergymen and others, who have to address audiences in large halls, churches, or cathedrals. If the voice is pitched to the dominant note of the building the speaker is heard at the periphery, but if he speaks on an unsympathetic note he will only be heard with distinctness at a short distance, even though he should almost shout.

I am, Sir, yours faithfully,

London, Feb. 7th, 1914. SEYMOUR TAYLOR.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—I ventured to make a few remarks in your issue of Jan. 31st on the free choice of doctor because THE LANCET, the *British Medical Journal*, and the *Morning Post* had all laid so great a stress upon it; but surely in discussing the *pros* and *cons* of a State Medical Service there are other and bigger questions beside which "free choice" becomes comparatively insignificant.

No medical man will, I feel sure, deny that there is a great wastage of life through death or permanent disability from preventable or postponable disease, and no one will deny that the physique of the nation is faulty and not what it might be. Further, the birth-rate is declining to a somewhat alarming extent, and consequently the conservation of the health of those who are born is becoming a matter of vital importance to the prosperity of the nation. The question is whether the present method of bringing the public into touch with the medical profession is as good as it could be, or whether by some change the standard of the national health and physique could be raised.

There have been enormous advances in medical knowledge and methods of diagnosis and treatment which have been of great value to individual patients, but so far have done but little to prevent disease and raise the standard of the health of the community as a whole. Rightly or wrongly, it seems to me that these very advances have put the science of medicine beyond the power of individual effort to deal with, and that for the sake of the nation individualism and competition should give way to coöperation. Again, rightly or wrongly, it seems to me that the only way to obtain whole-hearted coöperation within the profession and to extend to the whole nation the advantages of the recent advance in medicine and allied sciences is to establish a whole-time salaried State Medical Service, with prevention of disease as its chief object. It is from this point of view that I would like to see the question of State Medical Service *versus* the present panel system discussed; therefore I shall only answer Dr. Lauriston Shaw's and Dr. Major Greenwood's letters in so far as they raise the question of the possibility of free choice of doctor under a State service—a question which is thought by many to be of vital importance.

In discussing the possibilities of a free choice of doctors under a State service it must be remembered how limited is the freedom of choice to-day. Poor-law patients, dispensary patients, and hospital patients have practically no choice, and until a year ago club patients had none. In country towns the choice is strictly limited, and in "unopposed" practices there is none. Financial and geographical considerations limit the choice of even better-class patients, whilst amongst the very poor the cheapest doctor is of necessity invariably chosen. Many of these limitations would necessarily continue under any conceivable system of State service. As I have stated elsewhere, I can see no reason why the present system of allotting patients should be discontinued if to-morrow the 20,000 panel doctors became whole-time salaried officers under the State. At first there would be discrepancies with regard to the numbers on each doctor's list, but things would soon adjust themselves to altered circumstances. There would have to be, as there should be now, some limit put upon the work each man was called upon to undertake, which could be done by limiting the number of persons on each list, say, to 3000. When a doctor's list had reached this number other patients choosing him would have to be put upon his waiting list until vacancies occurred, and in the meanwhile go to the doctor of his next choice. After all this is much what happens now. There is a limit to every man's capacity for work, and when that limit is reached would-be patients are either refused or handed over to a partner or assistant. The panel system thus adapted to a whole-time salaried service and open to all would extend "free choice" to many who have not got it now, including the Poor-law patients; and pending the establishment of a fully organised State service it seems to me quite a feasible scheme.

A fully organised State Medical Service, including all branches of the profession, allied sciences, hospitals and other institutions, nursing and dispensing, must necessarily evolve slowly, and it is difficult to forecast the exact form it will ultimately assume. However, I picture in my mind the hospitals greatly increased in number and made the centres of all medical activities. To each hospital will be attached senior, junior, and assistant general practitioners, who will be as integral and essential a part of the hospital staff as any other branch of the profession, and according to my vision will be paid grade for grade equally with physicians, surgeons, and specialists. As members of the staff general practitioners will be able to keep in touch with their patients and themselves do for them many things which they cannot now do in cottages and workmen's dwellings. As members of the staff they will have the advantage of being in daily touch with representatives of all other branches of the profession, which will add greatly to the interest of their work. Each member of the staff of general practitioners will have his definite hours on duty for seeing patients at the hospital, instead of as now at his own private dwelling, and a list of the staff with their hours of attendance will be posted up in the hospital and published weekly in the local papers. All patients who are able to leave their homes will thus be able to come to the hospital and seek the advice [illegible] choice, whilst those who [illegible] illness will send or telep

ask the doctor of their choice to visit them. If the chosen doctor on that particular day has already filled up all the available hours of his time on duty the patient will have to be content with one of the assistants or ask the senior of his next choice to take up his case, just as now happens in private practice.

In the smaller towns there must be outposts in the shape of cottage hospitals worked on the same lines as regards "free choice" and linked up with the bigger centres by means of telephone, motor-cars, and motor ambulances. In the rural districts there must be dispensaries, linked up in their turn with the cottage hospitals, at which the local doctors will have their consulting-rooms well equipped with instruments and all modern appliances, and with a nurse or nurses to help them in their work. In such districts as require more than one doctor some choice can be given to patients.

It is some such system as this for which advocates of a State Medical Service are working, and it would give as great a freedom of choice of doctor as there is now, and it would extend that freedom to a larger proportion of the population. But it is probable that as the work of the service became, as it is bound to do, more and more specialised, as each branch of the profession worked more and more in close coöperation with every other branch; and as modern methods of diagnosis and treatment became more and more scientific and exact and available to all, the desire for "free choice" would gradually die a natural death. It is even possible that in the days to come advancing knowledge will throw more light on those diseases now classified as neurotic and point to a better and more scientific way of dealing with them than by "faith in the doctor."—I am, Sir, yours faithfully,

CHARLES A. PARKER.

Upper Wimpole street, W., Feb. 9th, 1914.

THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—If the definition of language be the art of concealing thought, Mr. Lloyd George is to be congratulated on his statement at the complimentary dinner to Dr. Addison on Friday last that "excluding duplicates in any one Insurance area, but including doctors whose names are put on more than one panel," there are over 20,000 practitioners on the panels. A superficial comparison of the panel list for London with those for the surrounding counties shows immediately that a fallacy of the first magnitude lies concealed in the specious phrase quoted above. On every boundary of every contiguous county or insurance area duplicates are counted, "and there are several," though pains are taken to state that duplicates are not counted within the interior of these same areas. Had this been done, which would have been equally justifiable, Mr. Lloyd George might have had the satisfaction of stating that there are more practitioners on the panels than are contained on the Medical Register.

The correct figure is probably about 14,000, as has been previously stated.

I am, Sir, yours faithfully,
ROBERT CARSWELL,
Honorary Secretary, National Medical Union.

Strand, W.C., Feb. 10th, 1914.

To the Editor of THE LANCET.

SIR,—The *East Anglian Daily Times* is never tired of singing the praises of the Insurance Act, extraordinary measure. A very remarkable statement was made at a recent meeting of the East Suffolk Insurance Committee by the vice-chairman, but it was not reported in the *East Anglian Daily Times*. He said: "Had I been a doctor nothing would have induced me to sign the agreement." He referred to the 1914 agreement. Comment is, I think, unnecessary.

I am, Sir, yours faithfully,
T. CUMING ASKIN, M.D. Dub.

Alderton, Woodbridge, Suffolk, Feb. 7th, 1914.

To the Editor of THE LANCET.

SIR,—There is no doubt that the profession is drifting hopelessly with the tide. General practitioners are divided into two hostile camps with no possibility of reconciliation. The Presidents, past and present, of the Royal Colleges give no advice or help. Some other distinguished doctors' names are to be found on the committee of a recent dinner in honour of a man who probably is an important factor in the division. The real cause has been the weakness of half of the medical profession in signing a pledge and then breaking it at the beginning of last year.

These doctors are apparently busy forming societies to support panel practice. They can save themselves the trouble; being Government servants, and badly beaten on their own ground, they are never likely to obtain reforms worth speaking of unless they organise a strike, and even then, after last year's fiasco, no one will heed their threats. The politicians, medical and lay, have won the day, and unless something is done I have no doubt that the insurance doctors will submerge themselves (as they have done in Germany) to the level of underpaid artisans.

It may be asked, Is there any remedy for the present chaotic condition? It is a fact that a certain amount of contract medical service is required in this country; for instance, a labourer with six children earning 30*s.* a week cannot afford to pay a doctor's bill; for these a Public Medical Service ought to be provided. But it must be organised and run entirely by the medical profession, its discipline especially must be in our own hands, and it must be a severe discipline. Such a service can and ought to be formed. It would be voluntary, and the patients would have free choice of doctors and all the petty annoyances of the Insurance Act would be swept away. No doctor would feel ashamed to belong to it. Politicians would be deleted from its council, and with their removal two-thirds of the trouble of organisation would disappear. I am, Sir, yours faithfully,

Streatham, S.W., Feb. 7th, 1914. E. H. WORTH.

A CATALOGUE OF SUFFERING.

To the Editor of THE LANCET.

SIR,—In reply to your correspondent, "M.D. Cantab.," I can assure him that closer attention will be given in future to the manner of setting forth to subscribers the disabilities of candidates for election to that great charity, the Hospital for Incurables, Putney.

No efforts are spared by the board of management to ensure that the disability of a candidate for election is incapable of cure or even of improvement. The list of selected candidates represents a very small proportion of the total number of applications for the benefits of the charity. With further generosity on the part of the public its work could, of course, be considerably extended.

I am, Sir, yours faithfully,
A MEDICAL MEMBER OF THE BOARD OF MANAGEMENT.

Feb. 5th, 1914.

THE NATIONAL INSURANCE ACT.

MEMORANDUM WITH REGARD TO PERSONS MAKING THEIR OWN ARRANGEMENTS UNDER SECTION 15 (3) OF THE NATIONAL INSURANCE ACT.

A MEMORANDUM has been issued by the National Health Insurance Commission in which the Commissioners draw the attention of the Insurance Committees to certain provisions in the current Medical Benefit Regulations as regards persons making their own arrangements, in which those Regulations differ from the Regulations previously in force.

The memorandum in paragraphs 2–6 deals with persons who were allowed to make their own arrangements for medical benefit during the past year, and explains their position when they have not given the proper notice of their desire to change their method of obtaining treatment. Such persons are to be deemed to have applied to obtain treatment in the current year in the same manner as in the preceding year. Insurance Committees will have to review the individual cases, for which purpose a proper form has been provided for issue, and where a committee consider that they must refuse a permission previously granted, the insured person will revert to the ordinary arrangements.

Paragraph 7 of the memorandum explains the position of exempt persons who are required to make their own arrangements. A form has been prepared, which can be issued by Insurance Committees, and which is also applicable to other persons who by the operation of any income limits fixed by the committee are required to make their own arrangements.

The next ten paragraphs deal as follows with—

Persons making their own Arrangements otherwise than with Duly Qualified Medical Practitioners.

8. It is within the knowledge of committees that the old Regulations did not deal under expressly separate provisions with arrangements made with qualified practitioners and those made with other persons. It was, of course, contemplated that the great majority of applications under Section 15 (3) of the National Insurance Act, 1911, would be received from persons desirous of making private arrangements with qualified practitioners; and this expectation has, it is understood, been justified by the experience of committees, who will, in all probability, continue to receive the bulk of their applications from persons desirous of making arrangements of that nature. But the Regulations did not exclude the possibility of arrangements of another class, and it was left to Insurance Committees to consider the particulars of individual applications with a view to giving or withholding consent, in accordance with a proper exercise of their discretion, upon the merits of each case.

9. It is understood, however, that difficulty was experienced last year by committees in some cases in dealing with the applications of persons desirous of arranging otherwise than with qualified practitioners, practically the whole of which have, according to the Commissioners' information, been received from those who wish to obtain treatment from persons known as "herbalists," on grounds of preference based either on a long existing habit, or on some objection to the treatment given by qualified medical practitioners. In the course of their consideration of these cases it is believed that doubts have occurred to Insurance Committees as to whether their discretion was not fettered by the terms of the

Regulations, as appearing to suggest, in the absence of any specific appropriate provision that, failing the satisfaction of the standards applicable to the case of treatment by qualified practitioners, the committee were not empowered to consent to, or contribute to the cost of, arrangements for other kinds of treatment.

10. It is not the case, in the opinion of the Commissioners, that the old Regulations fettered the discretion of Insurance Committees in the manner suggested; and it was open to them, as the Commissioners have advised when consulted, to exercise that discretion upon the merits of each application before them in accordance with their duties to the insured persons concerned. But as confusion seemed likely to arise in the consideration by committees, under one provision of general application, of cases differing so widely in character, and as situations of difficulty would certainly be created by an indiscriminate adoption, in respect of all types of cases, of administrative procedure primarily devised with a view to the circumstances of treatment by qualified practitioners only, the Commissioners have, both for the purpose of removing doubts and for the administrative convenience of committees, amended the Regulations in making them substantive, so as to restate (in Article 44) their practical effect in the form of distinct and separate provisions governing, in the two sets of cases, the conditions to be observed and the circumstances in which a contribution may be made.

11. Before, however, these provisions are dealt with, it should perhaps be pointed out that, though the conditions of the Special Exchequer Grant are no longer specifically referred to in the Regulations as conditions of a contribution by the committee, the position is in no respect modified by this amendment. The conditions in question are still required to be complied with as conditions of the Exchequer Grant *to Insurance Committees*; and *in the event of any* breach of these conditions in connexion with treatment privately arranged for under Section 15 (3) of the National Insurance Act, 1911, the committee will be liable to a proportionate diminution of their share of the grant. Moreover, paragraph 4 of Article 44 now expressly provides, in such cases, for a reduction being made in the contribution which would otherwise have been payable under that article to the person, in whose case non-fulfilment of the conditions has occurred, of the amount of the loss occasioned thereby; and as this provision is one of general application, the effect is that *in the case of every person* making his own arrangements, the committee's contribution is liable to be reduced by the amount payable from the Exchequer in respect of his treatment, unless the conditions of the Exchequer Grant have been fully complied with.

12. Proceeding now to the separate provision governing private arrangement cases with qualified practitioners, it will be observed that the previous position is not materially modified by the new Regulations. The committee are required to satisfy themselves that the private arrangements made "are such as to secure treatment (including drugs and appliances) not inferior in nature, quality, and extent to that provided under the arrangements made by the committee." They will also, of course, secure compliance with the conditions of the Exchequer Grant, as having general application to all cases, in the manner indicated in the preceding paragraph.

13. It should perhaps be pointed out that the Regulations have been slightly amended as to the methods according to which the committee's contributions are to be calculated. It is now possible for the committee to contribute to the cost of arrangements for receiving treatment from a qualified practitioner, made in either of the following ways—namely: (1) As regards both treatment and the supply of drugs, &c., by contract at a fixed rate or rates; (2) as regards treatment alone, by contract at a fixed rate, drugs, &c., being obtained when required, and accounts therefor being presented to the committee; (3) as regards drugs, &c., alone, by contract at a fixed rate, treatment being obtained when required and accounts presented; and (4) both treatment and drugs being obtained when required and accounts presented.

14. With regard to the separate provision (paragraph 2 of Article 44) governing private arrangements for receiving treatment otherwise than from qualified practitioners, it will be seen that it contains no explicit requirements as to the manner in which the committee are to satisfy themselves as to the arrangement made. It will, of course, be obvious that any definite standards established, such as that prescribed in the case of treatment by qualified practitioners (paragraph 1 of Article 44) must be comparative, and must thus fail to apply where the circumstances are not comparable; and it will therefore not be possible for the committee to judge of the satisfactoriness of any arrangements made with unqualified persons by the standards applicable to the panel system.

15. Paragraph 2 of Article 44 accordingly leaves the matter at the discretion of the committee, who "may make such contribution ...... as they think fit." But private arrangements with unqualified persons, like all other private arrangements, are subject to the application of the conditions of the Exchequer Grant. These conditions require, *inter alia*, that the person undertaking treatment should also undertake to provide domiciliary treatment for tuberculosis, in accordance with the Local Government Board Order of July 26th, 1912; and as it is not legally open to any person other than a duly qualified medical practitioner to perform this service, it is clear that no arrangements otherwise than with qualified practitioners could earn the grant to which these conditions attach. The committee will not therefore be able to rely upon receiving any sum from the Exchequer Grant in respect of treatment afforded by unqualified persons; and they would be well advised, in the Commissioners' opinion, to make it clear to any person desirous of being so treated that, in the probable event of a reduction in their share of the grant, the maximum sum available to them for contribution would be limited to the sum (amounting, with the State proportion, to 6*s.*) which is payable in respect of the applicant by his Approved Society or out of his account in the Deposit Contributors Fund, or from the Exempt Persons Fund, as the case may be.

16. *It will be seen that the Regulations only admit of a* contribution being made by the committee to the expense of arrangements for treatment by an unqualified person if the insured persons pay at a fixed capitation rate. The difficulty of equating the value of services rendered under widely varying systems, with a view to the adoption of a scale for the calculation of contributions on an attendance basis, would in practice prove almost insuperable.

17. The provisions of the old Regulations, enabling the committee in these cases to reduce or withhold their contribution in the event of their receiving representations from an Approved Society that the treatment is not such as will adequately protect the society's funds, is retained in the Regulations now current.

The Commissioners point out in conclusion that the forms for use by committees in connexion with applications from persons desiring or required to make their own arrangements, will have to be revised, and model revised forms have been prepared. Forms 43/I.C. and 43(*b*)/I.C. will be used in the appropriate circumstances where the arrangements are proposed with duly qualified practitioners. Form 43(*c*)/I.C. will be used in the case of persons required to make their own arrangements either under Section 9 of the National Insurance Act, 1913, or by the operation of any income limit adopted by an Insurance Committee. In view of the "Travellers" arrangements now in operation, it is not thought that committees will require any form similar to the original Form 43 (*a*.)/I.C., but in the event of such a form being necessary advice will be given by the Commissioners. Similarly, on application, advice will be given to Insurance Committees requiring forms to meet the case of insured persons, who desire to make their own arrangements with an unqualified person.

THE INSURANCE AND LOCAL MEDICAL COMMITTEES FOR KENT.

THE newly elected Local Medical Committee and Panel Committee for Kent are trying to arrive at their own solution of the administrative conditions imposed upon them by the National Insurance Act.

Congress will be 30*s*., and for members of their families accompanying them 15*s*. Messrs. T. Cook and Son, of Ludgate-circus, London, E.C., have been appointed official hotel and travel agents. A museum, the scope of which has already been outlined in these columns, is being arranged by a committee of which Mr. Hopewell-Smith is chairman and Mr. F. N. Doubleday is honorary general secretary. Intending exhibitors should apply to the offices of the Congress, 19, Hanover-square, London, W.

University of Liverpool.—Dr. Warrington Yorke, director of the Runcorn Research Laboratory in the Liverpool School of Tropical Medicine, has been appointed Walter Myers Professor of Parasitology in the University of Liverpool.

The late Mr. J. H. Targett, F.R.C.S., obstetric surgeon to Guy's Hospital, who died on May 26th last, has left by his will a sum which will bring in approximately £300 per annum towards the upkeep of the new Pathological Department of Guy's Hospital.

Centenarians.—Miss Ritso, of Bath, celebrated the 102nd anniversary of her birthday on Jan. 26th.—Mrs. Ann Peters, who celebrated the 100th anniversary of her birthday on Dec. 29th last, has died at Great Bookham, Surrey.

Devon and Cornwall Ear and Throat Hospital, Plymouth.—At the annual meeting of the Devon and Cornwall Ear and Throat Hospital the committee accepted with much regret the resignation of Mr. George Jackson, who has been honorary surgeon to the charity since the foundation of the hospital 27 years ago, and he was unanimously appointed honorary consulting surgeon.

Royal United Hospital, Bath.—The annual meeting of the subscribers of the Royal United Hospital, Bath, was recently held under the presidency of the mayor (Dr. Preston King). The medical report was satisfactory. The financial statement showed that the total income was £5289 and the total expenditure £7818, showing a deficit balance of £2529. The committee make a strong appeal for increased financial support.

Presentation to a Medical Man.—On Feb. 4th a presentation of a pianola was made to Mr. George Potts, of Maidstone, on behalf of the medical practitioners of Kent, by Mr. Arthur Maude, chairman of the Kent Medical Committee, in recognition of the valuable services which Mr. Potts has rendered during the last two and a half years as honorary secretary of the Kent Medical Committee.

Child Study Society, London.—This society has arranged the following programme of lectures and discussions for the present session, on Thursday evenings at 7.30 o'clock, at 90, Buckingham Palace-road, S.W. On Feb. 19th Mr. E. W. Scripture, of New York, will lecture on Speech Defects in Children and their Treatment; on March 5th Miss C. C. Graveson will lecture on the Sense of Humour in Children; on March 19th Professor J. J. Findlay will lecture on the Dramatic Impulse in Children; and on April 2nd Dr. Leonard Guthrie will lecture on the Nervous Child. On April 23rd there will be a joint meeting with the Charity Organisation Society, when the Rev. J. C. Pringle will open a discussion on Raising the Standard of Child Upbringing. On May 7th there will be a joint meeting with the Parents' National Education Union for a discussion on Education in Early Childhood before School Age.

"Jubilee" Congress of the German Roentgen Society.—This society will celebrate the tenth year of its existence by an extended congress and comprehensive exhibition to be held in Berlin from April 19th to 21st next. The particular time has been chosen so that visitors to Berlin for the Orthopædic and Surgical Congresses may have an opportunity to attend. A paper will be read by Dr. Krause, of Bonn, upon the Biological Effects of the Roentgen Rays upon Animal and Human Tissues. Particulars of other papers and demonstrations which it is proposed to offer must be sent to the secretary, Dr. Immelmann, Lützowstrasse, 72, Berlin, W. 35, at the latest before March 15th. Members are reminded that tickets of membership can be obtained (subscription M.10) up to April 1st from Herr Melzer, Ziegelstrasse, 10-11, Berlin, N. 24. The sessions and exhibition will take place in the Landes-Ausstellungspark, Berlin, N.W., at the Lehrte railway station (entrance in the Alt Moabit-street 4-10). The president for the year is Dr. Max Levy-Dorn. The first session takes place on Sunday, April 19th, at 10 A.M.

London Hospital.—The Worshipful Company of Grocers have made an offer to the Governors of the London Hospital of a sum not exceeding £10,000 for the provision of accommodation for the treatment of patients suffering from syphilis.

BOOKS, ETC., RECEIVED.

American Climatological Association, Philadelphia. (Secretary: Dr. Guy Hinsdale, Hot Springs, Virginia, U.S.A.)
Transactions of the American Climatological Association for the Year 1913. Volume XXIX. Price not stated.

American Laryngological Association, New York. (Secretary: Dr. Harmon Smith, 44, West 49th Street, New York City.)
Transactions of the Thirty-fifth Annual Meeting of the American Laryngological Association held at Washington, D.C., May 5th, 6th, and 7th, 1913. Price not stated.

Arnold, Edward, London.
Diseases of the Heart. By John Cowan, D.Sc., M.D., F.R.F.P.S., Professor of Medicine, Anderson's College Medical School, Glasgow. With Chapters on the Electro-Cardiograph by W. T. Ritchie, M.D., F.R.C.P., and the Ocular Manifestations in Arterio-sclerosis by Arthur J. Ballantyne, M.D., F.R.F.P.S. Price 15*s*. net.
Physical Chemistry, its Bearing on Biology and Medicine. By James C. Philip, M.A., Ph.D., D.Sc., Assistant Professor in the Department of Chemistry, Imperial College of Science and Technology, London. Price 7*s*. 6*d*. net.

Badger, Richard G., The Gorham Press, Boston.
Psychopathology of Hysteria. By Charles D. Fox, M.D. Price $2 net.

Baillière, Tindall, and Cox, London.
The Pocket Anatomy. Seventh edition, revised and edited by C. H. Fagge, M.B., M.S. Lond., F.R.C.S. Thirty-seventh Thousand. Price 3*s*. 6*d*. net.

Bale (John), Sons, and Danielsson, Limited, London.
Scrofulosis. By Prof. Dr. G. Cornet, Berlin and Riechenhall. Translated from the Second German Edition by J. E. Bullock, M.D., Assistant Medical Officer, The Eversfield Chest Hospital, St. Leonards-on-Sea. Price 15*s*. net.

Blackwood, William, and Sons, Edinburgh and London.
Practical Nursing. By the late Isla Stewart, Matron of St. Bartholomew's Hospital, London, and Herbert E. Cuff, M.D., F.R.C.S., Principal Medical Officer to the Metropolitan Asylums Board, London. Fourth edition, thoroughly revised and enlarged by H. E. Cuff, assisted by W. T. Gordon Pugh, M.D., B.S., Medical Superintendent, Queen Mary's Hospital for Children, Carshalton, Surrey. Price 5*s*. net.

Butterworth and Co., Bell-yard, Temple Bar, London, and at Winnipeg, Sydney, and Calcutta.
Butterworth's Workmen's Compensation Cases. Vol. IV. (New Series) October, 1912, to October, 1913. Edited by His Honour Judge Ruegg, K.C., and Douglas Knocker, Esq., of the Middle Temple and South-Eastern Circuit, Barrister-at-Law, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Lond. Price 7*s*. 6*d*. net.

Cassell and Co., Limited, London, New York, Toronto, and Melbourne.
Surgical Diseases and Injuries of the Genito-Urinary Organs. By J. W. Thomson Walker, M.B., C.M. Ed., F.R.C.S. Eng. Price 25*s*. net.

Churchill, J. and A., London.
Allen's Commercial Organic Analysis. Volume VIII. Enzymes, Proteins and Albuminoid Substances, Milk and Milk Products, Meat and Meat Products, Hæmoglobin and Blood, Proteoids, Fibroids. Fourth edition. Entirely rewritten. Edited by W. A. Davis, B.Sc., A.C.G.I., and Samuel S. Sadtler, S.B. Price 21*s*. net.

Constable and Co., Limited, London.
Lessons in Elementary Tropical Hygiene. For the Use of Pupils in Tropical Schools. By Henry Strachan, C.M.G., L.R.C.P. Lond., M.R.C.S. Eng., F.L.S., F.Z.S., F.R.A.I. Price 1*s*. net.

Dornan, William J., Philadelphia.
Transactions of the American Surgical Association. Volume the Thirty-first. Edited by Archibald Maclaren, M.D., Recorder of the Association. Price not stated.

Frowde, Henry, and Hodder and Stoughton, Edinburgh, Glasgow, and London.
Defective Ocular Movements and their Diagnosis. By E. and M. Landolt, Paris. Translated by Alfred Roemmele, M.B., Ch.B., and Elmore W. Brewerton, F.R.C.S. Price 6*s*. net.
Cunningham's Manual of Practical Anatomy. Revised and edited by Arthur Robinson, Professor of Anatomy in the University of Edinburgh. Sixth edition. Volume First: Superior Extremity; Inferior Extremity; Abdomen. Price 10*s*. 6*d*. net.

HIGGINBOTHAMS, LIMITED, Madras and Bangalore

Hygiene and Diseases of India A Popular Handbook By Lieut-Col Patrick Hehir, I M S, M D, F R C P, F R C S and F R S F, D P H Camb, D.T M Liv Univ Third edition Revised and illustrated *Price, Rs. 6.8, or 8s 8d.*

LEWIS, H K., London

The Sanitary Inspector's Handbook By Albert Taylor, Sanitary Inspector, City of Westminster. Fifth edition Price 6*s* net

LIPPINCOTT (J B) COMPANY, Philadelphia and London.

International Clinics A Quarterly Edited by Henry W. Cattell, A M, M D, Philadelphia U S A, with Collaboration Volume IV. Twenty third Series, 1913 Price not stated

LONGMANS, GREEN, AND CO, London, New York, Bombay, and Calcutta

Controlled Natural Selection and Value Marking By J C Mottram, M B Lond Price 3*s* 6*d* net

Introduction to Modern Inorganic Chemistry. By J. W. Mellor, D Sc Price 4*s* 6*d*

PANINI OFFICE, BHUVANESHVARI ASHRAM, Bahadurganj, Allahabad, India

The Dietetic Treatment of Diabetes By B D Basu, Major, I M S (retd). Fourth edition, revised and enlarged Price Rs 1 8

PRESBYTERIAN BOOK STORE, Federal street and Duquesne Way, Pittsburgh, Pa

The Tonsils and the Voice in Science Surgery, Speech, and Song By Richard B Faulkner, M D, Columbia University Price, $2 net

REBMAN COMPANY, 141-145, West 36th Street, New York

Research Studies in Psoriasis By Jay F Schamberg, M D, Director of the Research John A Kolmer, M D, Pathologist [illegible] W Raiziss, Ph D, [illegible] the Journal of [illegible] for October and [illegible]

ROUTLEDGE, GEORGE, AND SONS, LIMITED, London

Handbook of Photomicrography By H Lloyd Hind, B Sc, F I C, and W Brough Randles, B Sc, Lecturer in Biology, Derby Technical College Price 7*s* 6*d* net

SCIENCE PRESS, THE, New York and Garrison, N Y.

Medical Research and Education By Richard M Pearce, William H Welch, W H Howell, Franklin P. Mall Lewellys F Barker, Charles S Minot, W B Cannon, W T Councilman, Theobold Smith, G N Stewart, C M Jackson, E P Lyon, James B Herrick, John M Dodson, C. R Bardeen, W Ophuls, S J Meltzer, James Ewing, W W Keen Henry H Donaldson, the late C A Herter, the late Henry P Bowditch Price not stated.

SHAW AND SONS, 7 and 8, Fetter lane, London, E C

Clinical Disorders of the Heart Beat A Handbook for Practitioners and Students By Thomas Lewis, M D, D Sc, F R C P Price not stated

STEVENS AND SONS, LIMITED, 119-120, Chancery lane, London

Medical Jurisprudence from the Judicial Standpoint By W. Ramsay Smith, M D, C M, D Sc, F R S Edin. Price 12*s* 6*d*

TREAT, E B, AND COMPANY, New York

Diseases and Deformities of the Foot By John Joseph Nutt, B L, M D, Surgeon in Chief, New York State Hospital for the Care of Crippled and Deformed Children. Price $2 75

UNIVERSITY OF CHICAGO PRESS, Chicago, Illinois. **CAMBRIDGE UNIVERSITY PRESS**, Fetter lane, London

Artificial Parthenogenesis an [illegible] Member of the Rockefelle[illegible] Originally translated from t[illegible] B A, Assistant Lecturer in [illegible] England Supplemented a[illegible] 10*s* net

UNIVERSITY PRESS, Cambridge. **CAMBRIDGE UNIVERSITY PRESS**, [illegible] d according to Engler's [illegible] edition 1912) With the [illegible] enera By Humphrey G [illegible]

UNIVERSITY TUTORIAL PRESS, LIMITED, High street, New Oxford street, London, W C

First Stage Hygiene By Robert A. Lyster, M D Ch B, B Sc Lond, D P H Twelfth Impression (Sixth edition), revised and enlarged Price 2*s* 6*d*

WHITAKER, J, AND SONS, LIMITED, London

The International Whitaker 1914 Cash price in the United Kingdom, 2*s*

WOODALL, MINSHALL, THOMAS AND CO, Oswestry

Prifysgol Cymru The Calendar of the University of Wales for the Academic Year 1913-1914 Price not stated

WRIGHT, JOHN, AND SONS, LIMITED, Bristol **SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED**, London **MACMILLAN COMPANY OF CANADA, LIMITED**, Toronto

A Synopsis of Surgery By Ernest W. Hey Groves M S, M D, B Sc Lond, F R C S Eng, Surgeon to the Bristol General Hospital Price 9*s* 6*d* net

WRIGHT, JOHN, AND SONS, LIMITED, Bristol **SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO, LIMITED**, London

Explanatory Lectures for Nurses and their Teachers By H Hawkins Dempster Price 3*s* 6*d* net

WRIGHT AND POTTER PRINTING CO 32, Dearne street, Boston, U S.A

Forty fourth Annual Report of the State Board of Health of Massachusetts for 1912 Price not stated

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALDRIDGE, FREDERICK JAMES, M B, B C Oxon, M R C S, L R C P. Lond, has been appointed Medical Officer of Health of Glastonbury (Somerset)

BIDEN, W M, M B, B Ch Edin, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ketton [illegible] Certifying [illegible] Bellananagh [illegible] appointed [illegible] y Commis[illegible] ed Dental [illegible], J P, has [illegible] Devon and [illegible] Guardians

LITTLE, FRANCIS ERNEST, L R C P Lond, M R C S, has been appointed Honorary Consulting Surgeon to the Teignmouth (Devon) Hospital

MAXTED, G, M D, B S Lond, M R C S, L R C P Lond, has been appointed Assistant Surgeon to the Norfolk and Norwich Eye Infirmary

NORRIS, A H, M R C S, L R C P Lond, D P H, has been appointed by the Home Secretary a Medical Inspector of Reformatory and Industrial Schools [illegible] nted [illegible] has [illegible] outh (Devon) Hospital

PIGGOTT, FREDERICK CECIL HOLMAN, M D, B C Cantab, M R C S, L S A, has been appointed Honorary Consulting Surgeon to the [illegible]

TIT[illegible] pointed [illegible]

WA[illegible] rtifying [illegible] vereagh [illegible]

WH[illegible] pointed [illegible] ital for Sick Children

YORKE, WARRINGTON, M D Liverp, has been appointed to the *Walter Myers Chair of Parasitology* in the University of Liverpool

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index)

ALL SAINTS HOSPITAL FOR GENITO URINARY DISEASES, Vauxhall [illegible] S W —House Surgeon Salary £40 per annum Also [illegible] Surgeon Salary £120 per [illegible] osis Officer Salary £500 per annum

BETHNAL GREEN INFIRMARY AND WORKHOUSE Cambridge Heath, E —Assistant Medical Officer Salary at rate of £120 per annum, with apartments, board and washing

[illegible] House Surgeon Salary [illegible] —Anæsthetist for Dental [illegible] t rate of £100 per annum [illegible] ION COMMITTEE —School [illegible] edical Officer of Health. [illegible] TTAGE HOMES —Resident [illegible] 0 per annum, with apart[illegible]

BOA[illegible] hree In[illegible] annum

BOL[illegible] Medical [illegible] laundry, and attendance

BOMBAY, BARODA AND CENTRAL INDIA RAILWAY —Medical Officer Salary Rs 600 per calender month

BRADFORD, BIERLEY HALL SANATORIUM FOR CONSUMPTIVES —Resident Medical Officer. Salary £150 per annum, with board and residence.

Brentford Union Infirmary, Workhouse, and Schools, Isleworth, W.—Second Assistant Medical Superintendent, &c., unmarried. Salary £150 per annum.

Brentwood Asylum, Brentwood, Essex.—Assistant Medical Officer. Salary £200 per annum, with board, attendance, lodging, and washing.

Cambridge, Addenbrooke's Hospital.—Second House Surgeon. Salary £80 per annum, with board, residence, and laundry.

Cancer Hospital (Free), Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

Canterbury, Kent County Asylum, Chartham.—Junior Assistant (Third) Medical Officer, unmarried. Salary £220 per annum, with apartments, attendance, laundry, &c.

Cardiff City Mental Hospital, Whitchurch, near Cardiff.—Second Assistant Medical Officer, unmarried. Salary £250 per annum and all found.

Cardiff, King Edward VII.'s Hospital.—House Physician for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

City of Westminster Union Infirmary, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing.

Cobham, Surrey, Schiff Home of Recovery.—Resident Surgical Officer for six months. Salary £100, with board, lodging, and washing.

Croydon Borough Hospital for Infectious Diseases.—Assistant Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

Davos-Platz, Switzerland, Queen Alexandra Sanatorium.—Assistant Medical Officer. Salary £100 per annum, with board, residence, and washing.

Derby County Asylum, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

Dewsbury and District General Infirmary.—House Surgeon. Salary £120 per annum, with board, residence, and washing.

Doncaster Royal Infirmary and Dispensary.—Assistant House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Dorchester, Dorset County Hospital.—House Surgeon, unmarried. Salary £125 per annum, with residence, board, and laundry.

Evelina Hospital for Sick Children, Southwark, S.E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

Exminster, Devon County Asylum.—Assistant Medical Officer. Salary £220 per annum, with quarters, board, and laundry.

Farringdon General Dispensary and Lying-in Charity, 17, Bartlett's-buildings, Holborn Circus, E.C.—Resident Medical Officer. Salary £100 per annum, with rooms, attendance, fire, and lighting.

Glasgow, Lightburn Joint Hospital for Infectious Diseases, Shettleston, near Glasgow.—Resident Physician. Salary £170 per annum, with board, &c.

Glasgow Maternity and Women's Hospital.—Out-door House Surgeon at West-End Branch.

Gloucester, Barnwood House Hospital for Mental Diseases.—Second Assistant Medical Officer. Salary £200 per annum, with board, &c.

Gloucester, Gloucestershire Royal Infirmary and Eye Institution.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Greenwich, Dreadnought Hospital.—Medical Registrar. Salary £100 per annum, with luncheon. Also Assistant Physician.

Halifax Royal Infirmary.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

Hospital for Sick Children, Great Ormond-street, W.C.—House Physician and House Surgeon, unmarried, for six months. Salary £30 each, with board and residence, &c. Also Surgeon Dentist.

King Edward VII.'s Sanatorium, Midhurst, Sussex.—First Assistant Medical Officer. Salary £200 per annum, with board, lodging, and attendance.

Lancashire County Council.—Four Assistant Dispensary Tuberculosis Officers. Salary £350 per annum. Also Two Junior Assistant Tuberculosis Officers. Salary £300 per annum.

Leamington Spa, Warneford, Leamington, and South Warwickshire General Hospital.—House Physician. Salary £85 per annum, with board, residence, and laundry.

Leicester, Leicestershire County Council.—Assistant Tuberculosis Medical Officer. Salary at rate of £300 per annum.

Leicester Royal Infirmary.—Assistant House Surgeon and Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

Liverpool City Infectious Diseases Hospital.—Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with board, washing, and lodging.

Liverpool, David Lewis Northern Hospital.—Three House Surgeons and Two House Physicians for six months. Salaries at rate of £60 per annum, with residence and maintenance.

London Lock Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Royal Infirmary.—Assistant Medical Officer to Convalescent Hospital, Cheadle, unmarried, for six months. Salary at rate of £80 per annum, with board and residence. Also Accident Room House Surgeon for six months. Salary £100 per annum, with board and residence.

Manchester, St. Mary's Hospitals for Women and Children.—Two House Surgeons. Salaries at rate of £50 per annum, with board and residence.

Middlesex Hospital, W.—Director of Institute of Pathology. Salary £200 per annum.

Miller General Hospital for South-East London, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £85 per annum, with board, residence, and laundry.

National Dental Hospital and College, Great Portland-street, W.—Deputy Anæsthetists.

New Hospital for Women, 144, Euston-road, N.W.—Female Senior Clinical Assistants in Out-patient Department and Clinical Assistants for Ophthalmic Department.

Newcastle upon-Tyne, Royal Victoria Infirmary. — Honorary Assistant Surgeon.

Newport (Mon.), Royal Gwent Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Nottingham, City of.—Resident Assistant Medical Officer, unmarried, for Bagthorpe Institution and Infirmary for six months. Salary at rate of £165 per annum, with apartments, &c.

Preston, Elswick Sanatorium, near Kirkham.—Medical Superintendent. Salary £300 per annum, with board, apartments, and washing.

Preston Royal Infirmary.—House Physician. Salary £100 per a[illegible] lry.

Quee[illegible] Marylebone-road, N.W.—F[illegible] ate of £80 per annum, and lunch.

Reading, Royal Berkshire Hospital.—Honorary Assistant Physician.

Rochester, St. Bartholomew's Hospital.—Resident House Physician for six months. Salary at rate of £110 per annum, with board, residence, and laundry.

Royal Ear Hospital, Soho.—House Surgeon. Salary £40 per annum.

Royal Naval Medical Service.—Twenty-five Appointments.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

Sheffield, East-End Branch of the Children's Hospital (Out-patient Department).—Female House Surgeon. Salary £75 per annum, with board and residence.

Singapore Infectious Diseases Hospital.—Medical Superintendent. Salary 4200 dollars for the first, 4500 dollars for the second, and 4800 dollars for the third year, with furnished quarters.

Southampton Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Smethwick County Borough Education Committee.—Assistant School Medical Officer. Salary £250 per annum.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with board, lodging, and washing.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—House Surgeon. Salary £125 per annum, with board, washing, and attendance.

Tiree Parish (by Oban).—Medical Officer. Salary £120 per annum, with house free.

Tottenham Education Committee.—School Dentist. Salary at rate of £250 per annum.

Warwick County Asylum, Hatton, near Warwick.—Second Assistant Medical Officer, unmarried. Salary £225 per annum, with board, lodging, and laundry.

Western General Dispensary, Marylebone-road, N.W.—Honorary Physician.

West Ham and Eastern General Hospital, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

West Ham Union Sick Home, Forest-lane, Forest Gate.—Second [illegible] Salary £160 per annum.

We[illegible] Education Committee.—Eye [illegible]

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Salary at rate of £125 per annum, with board, rooms, and laundry.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Chipping Norton, in the county of Oxford; at Dinas Mawddwy, in the county of Merioneth; at Miltown Malbay, in the county of Clare; and at Wokingham, in the county of Berks.

*** The summary of vacant appointments, published weekly in this column, is, equally with other articles, the literary copyright of the Proprietors of The Lancet.

Births, Marriages, and Deaths.

BIRTHS.

Adamson.—On Jan. 27th, at 33, Highcroft-terrace, Preston Park, Brighton, the wife of Oswald J. W. Adamson, M.R.C.S., L.R.C.P., of a daughter.

Iredell.—On Feb. 7th, at Cumberland-terrace, Regent's Park, the wife of Dr. C. E. Iredell, of a daughter.

DEATHS.

Cock.—On Feb. 7th, at Ockham, Surrey, Julia Anne Hornblower Cock, M.D., in her 54th year.

Wise.—On Feb. 7th, at Ravensbourne-gardens, West Ealing, William Clunie Wise, M.D., D.P.H., Barrister-at-Law, aged 76 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

LIBERIA'S ENERVATING CLIMATE.

LIBERIA, the Negro Republic of Western Africa, occupies that part of the coast of North Guinea which is between the river Kavalli, S E , and Manna, N.W., a distance of about 350 miles, with an arc [illegible] the United [illegible] as an independent State. I [illegible] 050,000, including about [illegible] British Consul in the Re[illegible] whose annual report has just been received at the Foreign Office. In it he remarks: "The constantly recurring attacks of malarial fever of severe type which incapacitate the European in Liberia, handicap him in his struggle against the many discouraging conditions by which he is surrounded, and, at the end of an absurdly short period of service, send him back to Europe for indispensable recruitment at the expense of time, money, and business [illegible] ctically avoided if European [illegible] e small amount of trouble and [illegible] xpense involved in mosquito- [illegible] l dwellings. This is a vital [illegible] apparently, in spite of the constantly reiterated advice of the schools of tropical medicine, has as yet thought of taking. In common with all the coast lands of West Africa, Liberia abounds with mosquitoes, and the resultant fever is as common as it is disastrous. It is safe to say that throughout the country there is only one building which is proof against mosquitoes—namely, this Consulate-General—and although the result of the experiment has been striking in the extreme, it has not been further adopted, with the result that incapacity of employees and consequent dislocation of business from various forms of fever are matters of daily occurrence The climate of a tropical country with an annual rainfall of probably more than 160 inches requires but litt[illegible] is bound to be as bad, as [illegible] as it can be, and when [illegible] is sapped by the ravage[illegible] European is indeed in an unhappy case The food supply of Liberia is so bad and insufficient as to have provoked the remark of a well known resident that 'whilst he resided in Liberia he boarded in Europe.' This is by no means an exaggeration. In Monrovia (the capital), for example, the population have to depend upon supplies brought by the fortnightly fast steamers of the Elder Dempster group of companies. At times it is possible to obtain a little more or less fresh meat from a cargo boat, but, in any case, due to want of cold storage, butcher's meat is a luxury which can only be partaken of during a very few days in each month, whilst fresh milk and butter are unknown Cattle, sheep, and goats thrive, but no attempt is made to establish an abattoir, dair[illegible] that [illegible] tain [illegible] of [illegible] fowls, suffers severely.'

A PASSION FOR PILLS.

IN the year 1814 one man created a record by swallowing not fewer than 51,590 pills His name was Samuel Jessup, who died at Heckington in Lincolnshire in 1817, aged 65 He was an opulent grazier, a bachelor, without known relatives, and for the last 30 years of his life possessed a craving for what was then called "physic" In 21 years he took 226,934 p[illegible] of Wright, who [illegible] of 10,806 pills a y[illegible] end he took 78 a[illegible] bottles of mixture, juleps and electuaries. Some of these particulars were disclosed at a trial for the amount of an apothecary's bill at Lincoln assizes shortly before his death.

A RAT-DESTROYING SHIP.

O[illegible] (the Physician), is [illegible] William Lamb, of [illegible] statement that the [illegible] ing at Philadelphia [illegible] by an Australian medical man, Dr George Harker, for extinguishing fires on board ship by exhausting all the oxygen from the ship, but the gases formed by it are destructive to life, and this fact is now being utilised by the Government officials engaged in the crusade against bubonic plague In view of this it is stated that Philadelphia is in this respect one of the best guarded harbours in the world.

AN INK-PENCIL PEN.

Messrs. Burge, Warren, and Ridgley, Limited, of Great Saffron Hill, London, E C , have sent us one of their "Compacto" stylo pens, which they describe as "the nattiest pocket ink pencil ever made." Certainly the description is well merited. The "Compacto," which closes up to three inches for the pocket, will be found most useful for the taking of notes, as the ink dries at once, the flow being fine, though adequate for all [illegible] filling in of charts, official [illegible] space is usually limited, [illegible] question, the "Compacto" [illegible] To the medical prac[illegible] peal as a time saver in [illegible] can be obtained of any stationer or from the makers for 3s. 6d.

◆

"*Havcrstock.*"—Many details [illegible] Number of THE LANCET c[illegible] regard to the regulations [illegible] didates for admission to the Indian Medical Service. Candidates must possess, under the Medical Acts, a [illegible] Great Britain and Ireland. [illegible] e in Medicine and Surgery [illegible] (provided that professional study was begun before Jan. 1st, 1892) registrable in the Colonial List of the British Medical Register pursuant to Section 11 of Part II of the Medical Act, 1886 (*vide* p. xcvii. of the Medical Register, 1913). Our correspondent should also refer to the proceedings of the General Medical Council in THE LANCET of June 15th, 1912, p. 1629 *et seq.*, and the report by the examination committee on Indian Medical Study and British Qualifications. Further advice could be obtained from the Registrar, General Medical Council, 299, Oxford street, London, W.

Etiquette.—It is not usual, even when no "introduction" can be obtained, for the newcomer to call upon the patients whose names are on the books of the practice. On the [illegible] to call at once upon the [illegible] to inform them of his [illegible] of the usual introduction is a serious drawback

Dr A L Moreton—Sir Jonathan Hutchinson's works were announced in the advertisement pages of THE LANCET of July 26th, 1913, p 5

COMMUNICATIONS not noticed in our present issue will receive attention in our next

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914 —

[illegible] ess of the German [illegible] the International [illegible] Depage Bruxelles.)

" [illegible] of the German Surgical Society

" 19th-21st (Berlin) —"Jubilee" Congress of the German [illegible]

" [illegible] German Congress for [illegible]

" [illegible] cultural Hall).—Nursing Conference and Exhibition.

May 1st-Nov 1st (Lyons) —International Town Hygiene Exhibition.

June 18th-24th (London, Church House, Westminster).—International Conference on the Blind.

July [illegible] of the Royal [illegible]

" [illegible]

" [illegible] Institute of [illegible]

" [illegible]

" [illegible]

" [illegible]

Aug. 3[illegible]

" 1[illegible]

Sept. [illegible]

" 3[illegible] Medicine

September (Vienna).—Third International Congress for Diseases of Occupation.

Nov. 15th-21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)

(London).—Anglo-American Exhibition.

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

In 1915:—

May 31st-June 5th (London, South Kensington).—Sixth International Congress of Social Work and Service.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. G. E. Smith: The Brain of Primitive Man, with Special Reference to the Cranial Cast and Skull of Eoanthropus (the Piltdown Man).—Prof. A. J. Ewart: On Oxidases (communicated by Prof. J. R. Green).—Dr. J. W. W. Stephens: A New Malaria Parasite of Man (communicated by Sir Ronald Ross).—Mr. S. B. Schryver: Investigations Dealing with the Phenomena of "Clot" Formations. Part II.—The Formation of a Gel from Cholate Solutions having Many Properties Analogous to those of Cell Membranes (communicated by Prof. V. H. Blackman).—Mr. D. J. Lloyd: The Influence of the Position of the Cut upon Regeneration in Gunda Ulvae (communicated by Prof. J. S. Gardiner).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF OPHTHALMOLOGY (Hon. Secretaries—J. Herbert Parsons, Leslie Paton): at 8.30 P.M.

Adjourned Discussion:

On the Use of Salvarsan in Ophthalmic Practice (to be re-opened by Lieut.-Col. R. H. Elliot, I.M.S.).

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Laboratory Meeting at the Pharmacological Laboratory, University College (Prof. Cushny).

Members desirous of giving demonstrations are requested to communicate with Prof. Cushny, or one of the Hon. Secretaries.

GENERAL MEETING OF FELLOWS at 5 P.M.

Ballot for Candidates for Fellowship.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

Mr. Rupert Farrant: The Pathological Changes of the Thyroid in Disease.

Dr. F. H. Thiele: Paths of Spread in Bacterial Infection.

Mr. A. C. Morson: The Changes which Occur in Malignant Tumours on Exposure to the Gamma Rays of Radium.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4.30 P.M.

Dr. H. G. Adamson: (1) A Family Group of Cases of Multiple Benign Epithelioma; (2) Lentigenous Eruption in an Adult.

Dr. Freeman: Case of Bromide Eruption.

Dr. Nixon: (1) Case for Diagnosis; (2) Case of Acanthosis Nigricans.

Dr. Pernet: Case of Rodent Ulcer.

Dr. Norman Meachen: Two Cases of Congenital Mole.

Dr. J. M. H. MacLeod: Case of Grouped Comedones in a Young Child.

Dr. Russell Wilkinson: Case of Dermatitis Herpetiformis.

Dr. Knowsley Sibley: Case for Diagnosis.

Dr. Corbett: Case of Lichen Planus Verrucosus.

SPECIAL MEETING: at 8.30 P.M.

Debate on Pityriasis Rosea (to be opened by Dr. Graham Little).

FRIDAY.

SECTION OF OTOLOGY (Hon. Secretaries—G. J. Jenkins, W. M. Mollison): at 5 P.M.

Cases and Specimens:

Will be shown by Dr. Dundas Grant, Dr. W. H. Kelson, Mr. C. Ernest West, Mr. Richard Lake, Mr. G. J. Jenkins, and Mr. W. M. Mollison.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 8.30 P.M.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Demonstration of Pathological Specimens. Cases sent for Consultation. 5.15 P.M., Discussion on Bullous Eruptions (opened by Dr. M. Dockrell).

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Mr. W. McAdam Eccles: The Medico-Legal Aspects of Hernia.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Paper:—Dr. M. Wright: The Psychology of Freud and its Relation to the Psychoneuroses. Followed by a discussion.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

WEDNESDAY.—8.30 P.M., Discussion on Hysteria (opened Dr. P. R. Bolus).

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Mr. E. W. Scripture (New York): Speech Defects of Children and their Treatment.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Paper:—Fleet-Surgeon P. W. Bassett-Smith, C.B., R.N.: Recent Research Relating to Undulant or Mediterranean Fever. (Specimens illustrating Barton's Bodies and the Other Blood Changes in Oroya Fever will be shown.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

THURSDAY.—5 P.M., Milroy Lecture:—Dr. F. Shufflebotham: The Hygienic Aspect of the Coal Mining Industry in the United Kingdom. (Lecture I.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Hunterian Lectures:—Prof. A. Keith: Evolution and Diseases of the Anthropoid Apes: Lecture I., Living Forms of Anthropoids: their Distribution and Chief Characters; Lecture II., The Growth and Form of Brain in Anthropoid Apes; Lecture III., A Comparison of the Periods of Development, Growth, and Life amongst the Various Forms of Apes. (Illustrated by specimens from the Museum of the College; the epidiascope will also be used.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. Davis: Clinique (Skin). 5.15 P.M., Lecture:—Mr. W. Trotter: Common Errors in Diagnosis—Sprains and Fractures.

TUESDAY.—4 P.M., Dr. G. Rankin: Clinique (Medical) 5.15 P.M., Lecture:—Sir John Bland-Sutton: Common Errors in Diagnosis—Abdomen.

WEDNESDAY.—4 P.M., Mr. O. L. Addison: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Sommerville: Common Errors in Diagnosis—Foods and Feeding.

THURSDAY.—4 P.M., Dr. T. G. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Dr. E. Pritchard: Common Errors in Diagnosis—Infant Feeding.

FRIDAY.—4 P.M., Mr. C. E. West: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Pardoe: Genito-urinary Surgery.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Genito-urinary Surgery.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. [illegible] Mr. B. Harman: Diseases of the Eye. [illegible] 5 P.M., Lecture:—Mr. Pardoe: [illegible]

THURSDAY.—9 A.M., Dr Bernste[illegible] ment. 10.30 A.M., Dr. Simson. [illegible] 12 noon, Lecture:—Dr. G. [illegible] 2 P.M., Medical and Surgical [illegible] Operations. 2.30 P.M., Mr. Du[illegible] Lecture:—Mr. Souttar: Diseas[illegible]

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Souttar: Diseases of the Testicles.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). X Rays and Electrical Methods. 3 P.M., Special Demonstration: Paralysis of the Vocal Cords (Mr. Gillies). Medical In-patient (Dr. A. J. Whiting). 4.15 P.M., Lecture:—Dr. A. J. Whiting: The Treatment of Auricular Fibrillation.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

MONDAY.—4.15 P.M., Dr. F. Warner: Elements of Brain Training.

THE THROAT HOSPITAL Golden square, W
MONDAY —5 15 P M , Special Demonstration of Selected Cases
THURSDAY —5 15 P M , Clinical Lecture

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen square Bloomsbury, W C
TUESDAY —3 30 P M , Clinical Lecture —Dr S Scott Labyrinthine Forced Movements
FRIDAY —3 30 P M , Clinical Lecture —Dr S Scott Labyrinthine Nystagmus

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney road, N E
WEDNESDAY —4 P M , Lecture Dr J L Bunch : Some Skin Diseases in Children

CANCER HOSPITAL Museum of the Hospital Brompton S W
Post-Graduate Lectures on the Diagnosis and Treatment of Cancer —
WEDNESDAY —5 P M , Dr Horder The Value of Combined Treatments in Cases of Inoperable Cancer

ST JOHN S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W C
TUESDAY —2 P M , Dr W Griffith : Pathology of the Skin Appendages
THURSDAY —6 P M , Dr M Dockrell Seborrhœa and Psoriasis dealt with as Stages of the Same Dermatitis in Symptoms, Diagnosis and Treatment

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute 37, Russell square, W C
Course of Instruction for Tuberculosis Officers School Medical Officers Medical Practitioners &c —
FRIDAY —5 P M The Diagnosis and Treatment of Tuberculosis &c — Lecture VI —Mr H J Gauvain Surgical Tuberculosis,

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle street, Piccadilly, W
TUESDAY —3 P M , Prof W Bateson Animals and Plants under Domestication (Lecture V)
FRIDAY —9 P M Prof A Keith Busts and Portraits of Shakespeare and of Burns : An Anthropological Study

MANCHESTER HOSPITALS POST GRADUATE CLINIC
MONDAY —MANCHESTER CHILDREN S HOSPITAL, Gartside-street — 4.30 P M , Mr W H Hey Surgical Cases in Children
TUESDAY —SALFORD ROYAL HOSPITAL—4 30 P M , Mr J P Buckley, Hernia
WEDNESDAY —ROYAL INFIRMARY—4 30 P M , Demonstration of Medical and Surgical Cases
THURSDAY —ANCOATS HOSPITAL—4 30 P M , Dr A Renshaw: Information derived from Blood Counts
FRIDAY —ROYAL EYE HOSPITAL—4 30 P M , Dr H H McTabb: Choroiditis

ROTUNDA HOSPITAL POST GRADUATE COURSES, Dublin
MONDAY —10 A.M , Obstetrical Lecture Rupture of the Uterus (continued) 11 A M Examination of Patients and Minor Operations
TUESDAY —10 A M , Major Operations
WEDNESDAY —10 A M , Obstetrical Lecture The Varieties of Contracted Pelvis 11 A M , Examination of Patients and Minor Operations
THURSDAY —10 A M [illegible]
FRI [illegible]

For further particulars of the above Lectures, &c , see Advertisement Pages

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Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radio in Vacuo	Maximum Temp. Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks
Feb 5	30 13	S		82	54	43	43	44	Fine
" 6	29 95	S		78	52	42	42	43	Fine
" 7	29 75	S W	0 10	85	52	43	45	47	Cloudy
" 8	29 49	S W	0 12	51	50	46	45	46	Raining
" 9	29 79	S	0 31	76	54	46	48	48	Overcast
" 10	29·86	S		80	55	47	46	47	Fine
" 11	29 72	S	0 02	51	47	47	45	47	Raining

Th [illegible] ve been received —
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Radiologie Médicale
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W.—Messrs. F. Williams and Co., Lond.; Dr. A. A. C. Wilson, Springhill Mines, N.S.; Mr. J. L. Wellesley-Miller, Malvern; Mr. A. Wilson, Lond.; Messrs. A. J. Wilson and Co., Lond; Wigan Infirmary, Secretary of; Willesden Urban District Council, Lond., Clerk to the; W. S.

Y.—Yost Typewriter Co., Lond.

Hunterian Lecture

ON THE

EXPERIMENTAL PRINCIPLES OF THE OPERATIVE TREATMENT OF FRACTURES. AND THEIR CLINICAL APPLICATION.

Delivered before the Royal College of Surgeons of England on Feb. 6th, 1914,

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(Concluded from p. 441.)

THE CLINICAL PROBLEM (*continued*).

The Method of Transfixing Bolts and Bolted Plates.

No metal nail or screw driven into a bone can remain tightly in position and resist a displacing force for very long unless it holds the bone by a broad flange. The most simple way of providing this broad grip is by using a bolt which transfixes the bone and is secured by a nut and washer on the opposite side.

Such a device has for a long time been advocated by Professor Depage, of Brussels, who has designed a very useful set of appliances for carrying it out, and has published many cases illustrating its use. No doubt this method is exceedingly efficient, particularly in the fixation of fragments at the articular ends of the long bones and in certain very oblique fractures of their shafts. But its efficiency can be still more increased and its scope extended if the transfixing bolts be used to fix metal plates on opposite sides of the bone. It will be convenient to describe the technique I have adopted, first for fractures of the articular ends, and secondly for fractures of the shaft.

The Bolting and Bolted plate Methods in Para-articular Fractures.

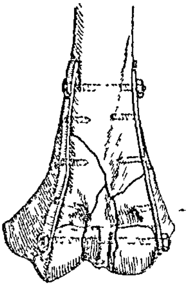
It is in the elbow, knee, and ankle that these fractures are most common and the most difficult to treat. There are two main things to be accomplished—first, the fixing of the broken fragments together, and then the firm attachment of the mended articular end to the shaft of the bone. The illustrations will give a good idea of the method. (Figs. 9, 10, and 21.)

In the case of the knee and the elbow the joint cavity must be opened, and the fragments reduced so exactly to their relative positions that the joint surface is perfectly restored. In this position they are held and transfixed by a long drill from side to side, and into the hole so made is passed a long bolt which is 3/32 inch or 1/8 inch thick according to the size of the bone. The head of the bolt carries one plate and another plate is passed over its opposite end and secured tightly by a nut, when the projecting end of the bolt is cut off. It is important that the bolt should be made of soft iron so as to make this latter proceeding easy. Then the other ends of the plate are bolted to the shaft of the bone after an accurate reduction of this part of the fracture. The plates are only 1/16 inch thick, and being of soft iron they become bent to fit the contour of the bone. The application of the second bolt so as to pass through the holes ready made for it in the plates must be done by means of a special drill guide. (Fig. 11.)

In the elbow this operation is somewhat difficult because of the close neighbourhood of the ulnar and musculo-spiral nerves, and because there is only one spot where the articular end of the humerus can be transfixed without entering the coronoid or olecranon fossæ. This spot lies just in front of the epicondyles, and to reach it the origin of the extensor muscles with the musculo-spiral nerve must be retracted outwards. In the ends of the femur and tibia which form the knee-joint the method is easy because there are very large surfaces for transfixion, and these surfaces are uncovered by any important structures.

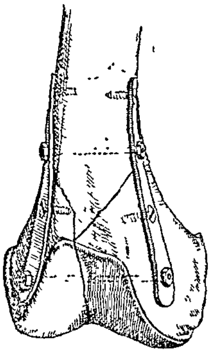
In bad cases of fractures close to the ankle-joint this method is of the greatest utility. It is absolutely essential that the malleolar processes of the tibia and the fibula should not only be accurately replaced, but that they should be so firmly fixed that they will not yield when the pressure of the body weight is put upon them. I show the ankle of a labouring man who was treated by one of the most up-to-date methods of non-operative methods—viz., that of immediate massage with early movements. It will be seen that although the end of the fibula has united very firmly to the shaft, the callus has yielded before the body weight and the socket of the ankle-joint become permanently deformed, so that unless it can be corrected the patient has an extreme talipes valgus which will incapacitate him from his ordinary work for the rest of his life.

FIG. 9.



Fracture of lower end of humerus into joint treated by bolted-plate method.

FIG. 10.



Bolted plate method for fracture of the lower end of the femur.

Such a displacement as this could never have been prevented by any plate and screws which hold only to the outer surface of the broken bone. The bolted plate method, on the other hand, is very easy of application in fractures about the ankle, and I give an illustration of the foot of a woman weighing 18 st., who was able to walk four weeks after the operation, and when seen six months later had a perfectly good anatomical and functional result. (Fig. 21.)

The Bolted Plate Method for the Shafts of the Long Bones.

It is in the bones of the leg, the femur and the tibia, that this method is of the most value, because in this situation we have to aim at a union which is not only firm enough to withstand great muscular strain, but one which is strong enough to bear the weight of the body before the occurrence of full bony union.

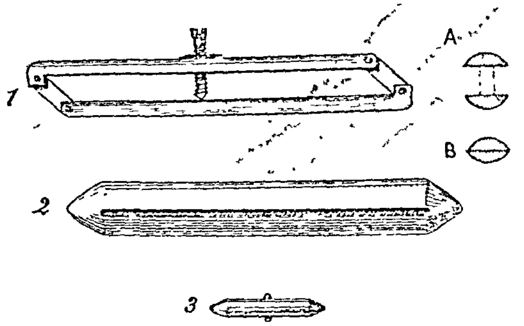
oblivious of the swelling. And again, however the peg is used, it can never hold the bones firmly or rigidly, and a patient can never walk upon a leg so mended until vital repair is complete.

The humerus is the bone above all others where pegging should find its chief use. As I have already noted, it is difficult to make an extensive exposure of the humerus sufficient for good plating without great danger to the soft parts. Pegging can be done through quite a small incision. Further, the humerus is the bone where non-union is most common, and the pegging method with its callus stimulation is well suited to prevent this. I have spent much time and thought in trying to make intramedullary pegs which could be removed after bone union had occurred, and although I have succeeded in this attempt I hardly think the device of much practical value. It consists of a wire spiral coiled in three layers, the inner and outer being circular turns and the middle longitudinal. It can be completely withdrawn from the bone without disturbing the fracture. Its defects are that it has to fit loosely, in order to be readily introduced, and that it is not rigid enough to act as an internal splint.

Another type of intramedullary peg, made both in steel and in ivory, is adjustable, folding in a small space and yet capable of expansion so that it fits tightly in the bone, holding it more rigidly than any solid peg.

The illustration (Fig. 18) shows this to consist really of two plates 3 inches long and 1/8 inch thick, curved on their outer surface to the circumference of a ½ inch circle. These are united by short bars 3/8 inch long at each end, the four pieces being so hinged together that it collapses to the form of a bar ¼ inch thick, or opens to a quadrilateral which forms part of a cylinder ½ inch in diameter. This opening process is effected by means of one screw driven in through the fracture line where it remains, keeping the apparatus in place. When tightened up, this really forms a double internal plate and it holds the fragments beautifully rigid. It by no means fills the marrow cavity, and it fits so loosely when collapsed that, by means of a wire through the screw hole, it can be slipped into the interior of the bone without any boring, and the screw adjustment makes it tightly fit into any bone into which it can be placed.

FIG. 18.



Three types of intramedullary pegs. 1. = Adjustable peg made of metal or ivory. It is inserted closed, the section then being as at B ¼″ × 5/16″. When inside the fracture it is opened by the screw, and when fully open it is part of a cylinder ½″ in diameter as in A. 2. = Long bone peg—full size being 3″ × ½″, with central hole and lateral grooves for insertion by wire traction. 3. = Small peg with fixed cross piece. This should be made of solid ivory and not perforated by a peg, which makes a weak place where most strength is needed.

The Treatment of Old Cases of Non-Union.

There are two measures which may be advocated for this condition. The first is the use of pegs made of solid metallic magnesium, which I have shown has a most stimulating effect on callus production.

The second is the use of a living bone graft. This latter is, of course, no new idea, but I would venture to point out how it may be applied in the way most likely to give success.

For a bone graft to grow in a new place it is very desirable that it should be very closely applied to a large surface of fresh cut bone, and that it should be firmly held there, so as to allow no movement. A graft cut from the front of the tibia cannot be used in the ordinary way as an intramedullary peg because it will not fit the marrow cavity of the bone, and therefore can only be tied there loosely by wire. I believe this is the reason why many of the grafting operations done for non-union have given such poor results.

FIG. 19.

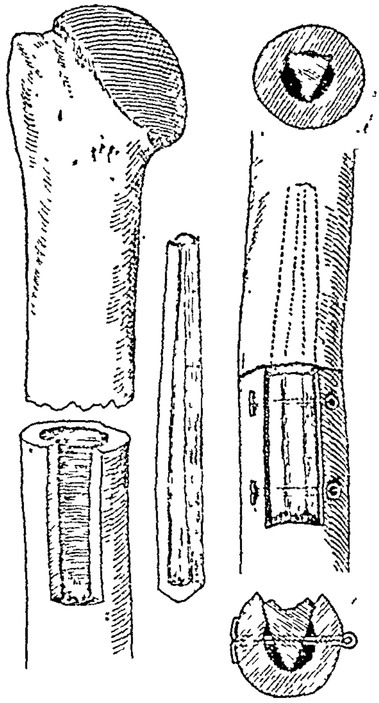


Diagram showing method of treating old ununited fracture by a bone graft from the tibia.

The technique I would suggest is as follows, and it is illustrated in a case of faulty union of the knee-joint 15 years after excision. The graft is cut of good length and substance by a special circular saw from the front of the tibia. It will be roughly square in section. The smaller end is to be pared down so as to fit tightly one end of the broken bone into which it is driven for half its length. The other half of the graft is fitted to the other end of the bone, after removing a sufficient piece from about one-third of its circumference. There it is secured by perforating and encircling wire or by split pins. (Fig. 19.)

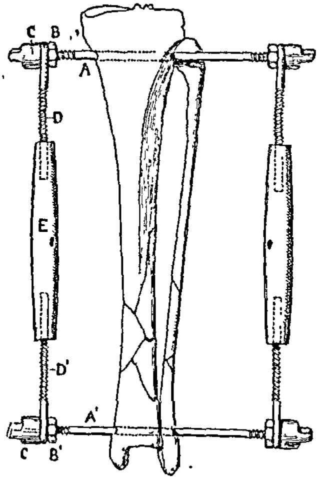
The Method of Indirect Fixation by Transfixion Apparatus.

This method is, as far as my own work is concerned, founded entirely upon, and suggested by, the experiments already described. But since doing these experiments and using the apparatus I have found that Dr. Lambret, of Paris, has invented *practically the same thing.*

I have attempted to apply the method of double transfixion to the humerus, femur, and the forearm, but without any success, and the method, as far as I know it, is only suitable for the leg below the knee. In the thigh it is possible to make an adaptation of the nail extension method of Steinmann and Codivilla by fixing the ends of the nail to steel extension bars which take their purchase from a ring round the groin, and this is useful when patients first begin to move after the nail extension treatment, as it shortens their stay in bed. The double transfixion apparatus is, however, invaluable in certain fractures of the lower leg bones, particularly those which are much comminuted or complicated by a wound or an unhealthy condition of the skin.

The principle of the apparatus is very simple, but the details necessary in its construction and application are important. The illustrations (Figs. 20, 22, and 23) will explain the nature and structure of the apparatus. Take, for example, a comminuted fracture of the lower end of both bones of the leg. The limb is cleaned in the ordinary way, and painted with 10 per cent. iodine from the knee to the toes. Everything is prepared in readiness and the patient is given gas, which must be employed for about five minutes. The two spots for transfixion are chosen and marked on the outside of the leg by short skin incisions. One should be just above the ankle-joint (one inch higher than the tip of the internal malleolus being a safe measurement), and the other opposite the tubercle of the tibia or lower down the leg (in this latter case the transfixion *must go through the front of the tibia to avoid danger of wounding the vessels*). The two transfixion bars, which are provided with bradawl ends and heads which fit a drill handle, are then made to pierce the bones, the lower one usually taking both tibia and fibula, the upper one the tibia only. Whilst this is done the leg must be strongly pulled upon and the fracture adjusted as accurately as possible. It is wise to use a drill guide, by which it is assured that the two pins enter the bone by exactly parallel routes. This is the only part of the operation for which the anæsthetic is necessary, but if it is the case of an excitable person it ought to be prolonged until the outside bars are screwed into place. These consist of rods which can be lengthened by means of a double or reversed screw, and which are fixed on to the transfixing pins by double nuts. The final adjustment of the bone can be made with the aid of the fluorescent screen.

FIG. 20.



Double transfixion apparatus for complicated fractures of the leg bones. A, A′ = highly tempered steel bars which transfix the tibia above and both bones below. They are sufficiently long to act as springs when their ends are pushed apart. One end of each is a drill point and the other is slotted to fit a drill handle, so that each is used to bore its own hole. B, B′ = nuts screwed on to A, A′ after insertion. C, C′ = screw caps which protect the ends of A, A′ and fix the apparatus rigidly when a correct position has been attained. D, D′ = rods with eyes which slip over A, A′ and opposite screw threads which fit into cylinder E.

If the transfixing pins are made of properly tempered steel they will act as a spring which keeps a constant extension as long as the side screws are tight. After a few days the patient can leave his bed and walk with crutches, and at the end of ten days he can put his foot to the ground and gradually bear his weight upon his injured leg. The little wounds on either side of the pins give no trouble, but they should of course be dressed at intervals. The apparatus is removed in three weeks in the comminuted cases when union is rapid, but it may be left on for six weeks in a case where union is slow.

THE CLINICAL PROBLEM: THE CHOICE OF METHOD.

For the practical man who wants to do the best for his patient, it is of the utmost importance to know what methods are available for the treatment of fractures and how they may be chosen for suitable cases. It is not so much a question as to whether method A, B, or C gives the best results if applied to all cases, but rather what are the special merits of each method which make them suitable for any special case.

The non-operative methods of fracture treatment fall into three groups—(1) immobilisation by splints and plaster; (2) massage with mobilisation; and (3) extension. Practically these three types of treatment represent principles two or three of which can often be applied for the treatment of the same case. But inasmuch as the massage and the extension methods are often spoken of as though they were self-contained and independent systems, it may be well to examine the chief possibilities and limitations of each of these methods.

Immobilisation by Splints or Plaster.

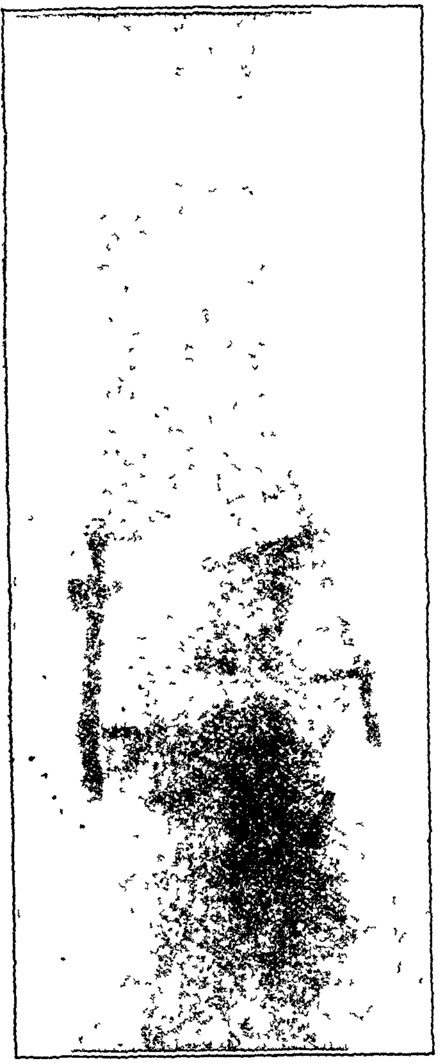
This is the old method, going back to prehistoric times. *It is almost everything that is bad. It does* nothing to reduce the deformity, it allows enough movement between the fragments to cause great callus excess, it keeps the patient in bed or inactive for the longest possible time, it does everything that can be done to make the muscles waste, the tendons adhere to their sheaths, and the joints to become fixed. And it conceals the prospect of all these evil results beneath the covering of elegant bandaging, so that they are not apparent until too late for remedy.

One good feature the method has, which unfortunately, with many, outweighs all its evils. It is easy both for patient and practitioner at the time. Perhaps one half hour is given to fixing the arm on an angular splint or to putting the leg into plaster, and then nothing more has to be done for a month or two, except for the patient to enjoy his convalescence and the surgeon to come and chat to him about the weather from time to time. Hence it is that the method which goes back to the Pharaohs seems likely to flourish for many a generation to come, so long in fact as "Laissez faire," "Solvitur ambulando," and "Wait and see" are the most popular mottoes of the day.

There may be some who read these words and think them a gross exaggeration, for they say that many a case has done well by the splint and plaster treatment. This is quite true, and it is this that makes the whole difficulty. If every case treated by a splint became maimed or lame for life no argument would be needed to condemn the method. Possibly the majority of the patients treated by it get a finally good result. But this good result is not because of the treatment, but rather in spite of it—that is to say, splint treatment is not treatment at all, except in a negative sense of the word. It is treatment only in the sense that bed is the treatment for enteric fever. Every broken bone, the fragments of which are not much displaced, will, if protected from further injury, heal. But when the fragments are displaced, the splint or plaster will do nothing to restore the proper form to the bone, and they also increase the functional loss due to adhesion of muscles and joints.

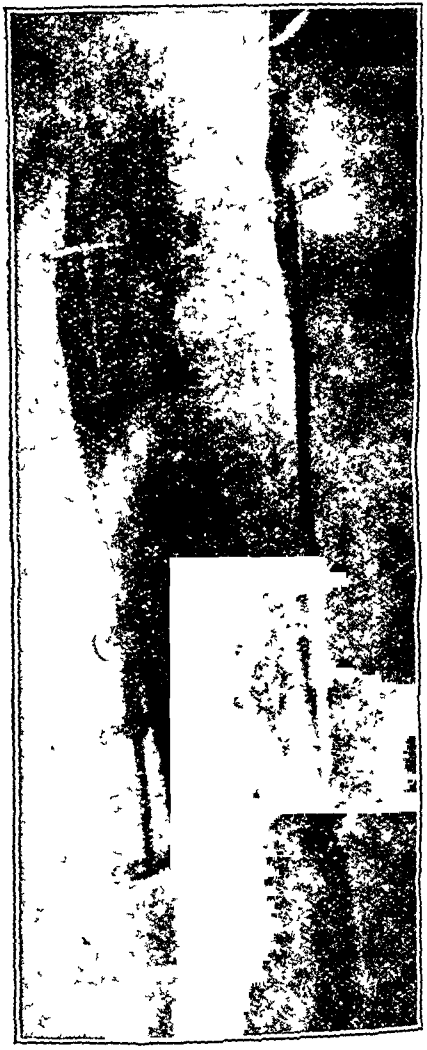
The only fractures that do well with the splint treatment are those in which the displacement of the fragments is trivial, and in such cases prolonged splinting is quite unnecessary, except in the form of a movable splint, only to be used during exercise and taken off when in bed and for massage.

FIG. 21



Skiagram of the ankle of a woman who weighed 18 st., with a double malleolar fracture Operation, June, 1913 Could put the foot to the ground three weeks later. Last seen December, 1913. The function was good.

FIG. 22.



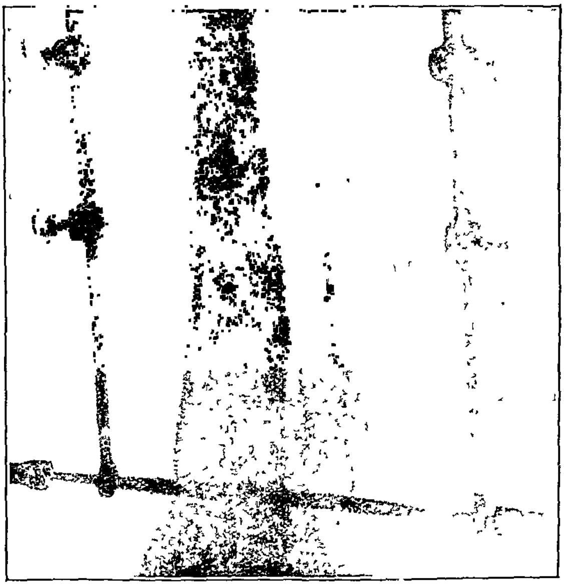
Photograph of man's leg one week after the application of the double transfixion apparatus for a severely comminuted fracture above the ankle.

The fixing of a limb on a splint which immobilises the joint above and below the fracture, and which is not removed for weeks together, ought to be abandoned absolutely, unless under exceptional circumstances (e.g., lunatics, those who are at sea, or a patient suffering from delirium). Such treatment is either too much or too little. It is too much for a subperiosteal fracture without displacement, and it is too little for a complete fracture with displacement.

The Method of Massage and Early Movement.

This as the sole method of treating all fractures I know nothing about. To my mind it is an important concomitant to other methods of treatment rather than a method standing by itself. About its value in those cases where there is but slight displacement there can be no doubt. It soothes pain, relaxes muscle spasm, and prevents both œdema and adhesions. It is its applicability to cases with much displacement which appears so doubtful. It is said that the light stroking massage, by which the limb is soothed, as it were, into a hypnotic trance, actually relaxes the muscles so much that the displaced bones can [illegible] relaxation lasts not for [illegible] of an anæsthetic but fc [illegible] massage séances a day, the limb may be kept in proper position even with a complete and easily *displaced fracture. This statement has been made,* and its truth witnessed by so many careful observers that it would seem to be folly to doubt it, and yet there seems to be about it a flavour of romance which does not appeal to the practical surgeon.

FIG. 23



Sklagram of the same patient as in Fig 22 The apparatus was removed after three weeks, and he returned to work in six weeks.

There are three points about the method as applicable to bad fractures, which compel me to think that it will not be widely used. In the first place, it was never adopted at all widely in Paris, in spite of the enthusiastic advocacy of the late Professor Lucas-Championnière, and in that city the method is now but little used. Then it requires someone with a very special skill and experience to carry it out, and if this be the surgeon he must be prepared to devote about one hour a day to each case for some weeks. And, lastly, there has always been a reluctance on the part of the extreme advocates of the method to put forward X ray evidence that fractures with gross deformity can be treated by it in such a way that the deformity is reduced. This engenders a suspicion either that there are no cures of deformity to show or else that the deformities often go uncured. However, in cases without much displacement the method is invaluable both for the sake of expediting recovery and securing a perfect functional result. If used with a minimum of fixation apparatus which is taken off twice a day, it should replace the old immobilisation on splints for all the lesser degrees of fracture.

The Methods of Extension.

The method which has been applied with all the thoroughness of the Teutonic genius to the greatest number and variety of fractures with the best results is that of the late Professor Bardenheuer, of Cologne. No one else has ever produced such good results, or if so, such results have never been made public. But [illegible] 100 hospital beds, a large [illegible] d a nursing sisterhood all [illegible] ject, and even in Germany it has been found that the method is often difficult and unsatisfactory from a practical point of view. However, it has been proved beyond all doubt that the principle of extension, if efficiently applied, is capable of giving good results in all the regular fractures.

It is when it is sought to extend its scope to the *treatment of complicated fractures, so that the* simple longitudinal pull has to be reinforced by several lateral or rotatory pulls, that the method becomes difficult of application, and likely to give poor results at the cost of much delay in the hands of any but the most experienced. Codivilla and Steinmann have rendered very good service in showing that by transfixing the bones by a nail such powerful direct traction can be made on the bone by the nail that the extension principle will produce much greater and quicker results. This is of especial value in the femur of adults, where there is great muscular tension to be overcome.

By whatever method extension is applied, it will produce its full effect in relaxing the muscles and reducing displacement within a few days. Then the fracture ought to be re examined by the X rays, and upon the result of this examination, depends the answer to the question of the need of operation in most cases. It cannot be too strongly insisted that the X ray examination of the fracture is not only the essential and most important *point of the diagnosis*, but that no method of treatment should be persisted in unless the X rays have proved that it has reduced the fragments to a good position. At the present day most of the really bad fracture results arise in cases which have been tied up in a splint for one or two months, and no X ray picture has been taken until obvious deformity and disability are demonstrated by other evidence.

There are two important cautions required in accepting an X ray verdict as to the good position of a fracture. The first, which has often been mentioned, is that the picture should be taken from different directions. The reason for this is so obvious and has so often been demonstrated, that there is no need to dwell upon it. But the other is one not so generally recognised. It is that the good position of the bone at one period of extension may be quite lost later on when the soft callus yields to the traction of the muscles or to the weight of the body.

This applies especially to oblique fractures of the shaft of the femur in adults, and I show two examples. In each of these the fragments had been brought into good position by extension, but several weeks later the bone had again slipped, so that there was much over-lapping.

I am showing to-day, and leaving for your inspection, a number of skiagrams of mal-united fractures. These cases have all been seen for insurance companies in the course of the last two years. They have all been treated in large hospitals by approved non-operative methods, and in all of them there has resulted permanent total incapacity for work, in the legal sense of the term. This, I think, affords evidence, if such is needed, of the necessity of the adoption of better methods of treating fractures, not so much by the country doctor, as by the hospital surgeon, to whom he sends his cases.

The Cases for Operative Treatment.

Most surgeons are agreed that fractures without displacement are to be treated by massage and movement and intermittent retentive apparatus; that cases with displacement must have immediate extension applied, and that if this fails to give a good reduction, operation is to be undertaken. But the matter cannot be concluded so simply as this. For, on the one hand, there are some cases in which, in spite of considerable persistence of displacement, a good result may be looked for eventually: whereas in other cases, though the displacement can be reduced by the apparatus and extension, there is a probability that it will quickly recur, or that it will yield before the body weight or that firm union will occupy a very long period under a non-operative *régime.*

In general terms it may be said that the following groups represent the factors which will determine in most cases whether an operative or non-operative method should be employed:—

Factors which make for success of non-operative methods:—

Youth of patient—i.e., during active bone growth; until puberty there is great capacity for bone repair and restoration of form and function.

Subperiosteal or partial fracture.

Fractures with little or no displacement.

Fractures of one only of the paired bones of the forearm or lower leg, especially of the ulna or fibula.

The majority of arm fractures.

Factors which indicate advisability of operation:—

Adult age. In fully grown bones, especially those of old people, there is good capacity for repair, but little for restitution of mal-union.

Fractures with gross displacement, especially oblique and spiral fractures.

Fractures of the shafts of the femur and of both tibia and fibula.

Fractures into or near the elbow, knee, and ankle.

Of course, there will always be a certain group of cases about which surgeons will disagree. A man will advise non-operative or operative treatment in such cases according as he has skill, confidence, and experience in a particular method. And further there will always be some cases about which a broad-minded surgeon will be in doubt, and such cases can only be decided on their own merits and not according to any general law.

There is a week in which to make this decision, and it is well to avoid either extreme of deciding on operation too quickly or postponing it too long. If anatomical restitution of form is to be the chief guide it is unreasonable to act upon a skiagram taken before extension was applied, and it is foolish to wait until a mal-union has occurred between the bones. It is quite certain that no fair judgment can be made in this matter by any but one who has mastered both the non-operative and the operative treatment of fractures. The enthusiast for bloodless surgery will be liable to wait far too long trying his manipulations in some hopeless case of displacement; whilst the enthusiast for operations will give no time for a reasonable attempt at non-operative reduction in many a case which would have yielded quite simply to this treatment. I wish to make it quite clear that I am not advocating the treatment of all cases by non-operative means, reserving the operation for those in which the former has failed, but simply that in the doubtful cases one week's trial of really efficient extension should be given and its results judged by the X rays before operation be decided on.

Comparison of Non-operative and Operative Treatment of Fractures.

In the broad sense of the word it would seem to me to be absurd and useless to institute a "comparison" between the results of non-operative and operative methods of treating fractures. And yet one often hears the question asked, "Do you believe in operating upon fractures?" As well might one ask, "Do you believe in drugs?" or institute a comparison between the non-operative and operative treatment of dyspepsia. Personally, I have very little doubt that if the system of treating every case of dyspepsia by operation were to be compared with that of treating all such cases without operation the results of the former would be very much better than the latter. But both plans would be criminal. Similarly, to inquire whether the non-operative or operative methods of treating fractures give the better result, is to assume that there exists a responsible surgeon who would suggest that no fracture should be submitted to operation on the one hand, or another who says that every fracture should be dealt with by the knife. The most conservative surgeon would not allow a fractured patella with much displacement to go unsutured, nor would the most ardent advocate of operations suggest an open attack upon a subperiosteal fracture of the fibula without displacement. Therefore, the main problem must ever be, not non-operative *versus* operative methods, but rather the selection of those cases suitable for the one method or the other.

However, the comparison between the two groups of methods has recently been seriously undertaken by a committee of the Surgical Section of the British Medical Association, and they have, in spite of the illogical and impossible nature of their task, produced one of the most valuable contributions to the literature of fractures that has ever appeared. They have examined over 2900 cases, and not only recorded the remote results in all of these, but they have so carefully arranged and analysed their figures, that their results form a mine of information and an authoritative standard by which all subsequent fracture work can be measured, and with which it can be compared. They themselves admit that, "It is undesirable to attempt to draw any final conclusions from this material as to the relative value of operative or non-operative treatment." Taking all cases together, the non-operative methods show 70·4 per cent. good functional results, whilst the operative claim 79·1 per cent. On the other hand, the non-operative produces 11·8 per cent. really bad results, and the operative 9·5 per cent. So that on this basis, which is that which shows the operative method in its least favourable light, there is this much to be claimed, that operative methods get 9 per cent. more good results and 2 per cent. fewer bad results than the non-operative. If the cases are divided into age groups, and only those considered above 15, then the results of operative are 21 per cent. better than those of non-operative methods.

Such figures will be regarded very differently by different observers. If there are any who think that all fractures could be treated by the one class of method or the other, then to such it will appear very doubtful whether only 9 per cent. better results for operative methods is justification for submitting 81 per cent. of patients to operation, who would have done just as well without it. But to the surgeon who thinks that operations should be reserved for the more complicated types of fractures, such figures would provide both encouragement and stimulus, for they would show that operations can produce better results in complicated cases, than the conservative methods do in the simplest.

The fact that out of a total of 2904 cases 2596 were non-operative and 308 operative is pretty clear evidence that at the period of observation, as only 1 out of every 10 cases was operated upon, these presumably were the most difficult and unpromising types. But without some knowledge of how cases were selected for operation, the figures can afford us no basis of comparison.

The great and lasting value of the fracture committee's report consists in the careful analysis of the anatomical and functional results of the large number of the non-operative cases they examined. Of the most fundamental importance is their demonstration of the dependence of good function upon perfect anatomical restoration. Good form secures good function in 90 per cent. of cases whereas moderate or bad restoration of form leads to bad function in 70 per cent.

It is particularly interesting to notice in which groups of cases the non-operative methods have given a high proportion of bad results, because this must give us a very significant indication as to the direction in which our operative activities may usefully be turned in the future. I have selected those cases only of patients over 15 years, because in general terms there is but little scope for operative treatment in any of the closed fractures of children.

Region of fracture.	Number of cases above 15 years.	Cases with good functional result.	
		Number.	Percentage.
Neck of femur	87	24	27
Upper third of femur	49	23	47
Lower end of femur	10	4	40
Tibia and fibula (simultaneous) ...	432	275	64
Pott's fracture	238	111	47
Supracondylic fracture of humerus	11	4	36

It is quite clear that there is great scope for improvement in all these groups, and I am certain that a proper operative technique could bring about this improvement in most cases. It will be noticed that five out of six of these groups are those in the operative treatment of which, I have urged already, on other grounds, the necessity of some special methods of fixation which attain the ideals of mechanical efficiency so necessary for success. The first group—that of fractures of the neck of the femur—presents a most difficult problem, which I do not feel at present justified in discussing. If we ask to what extent operators have attempted to deal with these groups of fractures we find clear evidence that these very cases, in which there is so much need for improved methods, surgeons have done but little. Of primary operations on adults there have only been the following:—

Neck of femur	0	Tibia and fibula	20
Upper third of femur	0	Pott's fracture	4
Lower end of femur	1	Humerus, supracondylic ...	0

And of these the only group containing enough cases to consider the proportion of successes—viz., that of the simultaneous fracture of the shafts of the tibia and fibula—the good functional results have only been 13 out of 20, i.e., 65 per cent.

The following inferences from these figures seem to be justified. 1. In these groups of cases there is greatly needed an improved method of treating adult fractures. 2. There is not any generally accepted method of operative treatment to meet this difficulty in any of these groups, with the exception of fractures of the shafts of the tibia and fibula. 3. At the date of the report it was in that group of cases which gives the best results to non-operative methods (tibia and fibula) that there has been the greatest activity in operating, whereas in those groups where there has been the greatest failure of the old methods the new surgery has done almost nothing. 4. Even in the one class where most operating has been done (tibias and fibulas) the results are only 1 per cent. better than those obtained by conservatism.

I think all these deductions from the report of the fracture committee point very strongly both to the need of the more frequent employment of operative treatment in certain groups of fracture, and also to the necessity of improving our operative methods. Progress in the treatment of fractures can only take place when all methods are mastered and applied with discrimination to suitable cases. There are two things necessary for a general improvement of our results. The first is that anatomically accurate reposition of the fragments, as demonstrated by the X rays, should be the standard by which the treatment of each case must be judged. The *laissez faire*, or "wait-and-see" policy of tying a limb to a stick and trusting to luck must be replaced by an accurate method of treatment, which only leaves the limb to nature if and when the bones are in good position. The second is that when we do operate we must employ a method which is mechanically efficient not only to bring the bones together but to hold them there firmly, whilst early movement is carried out and until solid union has occurred.

The ideals which I set before myself in the operative treatment of fractures are: 1. Not to operate upon any case which would probably give as good a result by conservative treatment. 2. To employ a method which will ensure perfect anatomical restoration of form. 3. To secure such efficiency of mechanical fixation that at the conclusion of the operation the bone is stronger than before the fracture. 4. To do this by a method of fixation which will last for an indefinite time, and does not depend upon the frictional grip of nails and screws upon the bone. 5. To restore the limb to a condition in which it can be freely moved as soon as the skin wound has healed—i.e., in 7 to 14 days, and used for its full natural function in a period of 3 weeks to 3 months according to the bone involved. I am keenly alive to the fact that at present these ideals have not been fully attained, but I believe that there is nothing impossible in their attainment, and whilst these ideals remain unfulfilled, they provide both stimulus and goal for future work.

THE THYREOGLOSSAL TRACT.*

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In the treatment by operation of the abnormalities which occur in the course of the thyreoglossal tract there is a tendency to excess on the one hand, by which essential thyroid gland tissue is removed under the mistaken idea that a new growth must be taken away, with the result that operative myxœdema, cachexia strumipriva, has followed; on the other hand, owing to limited operations on cysts, a sinus opening upon the neck is set up which persists, or is only cured after several operations.

The observations which have been made upon the development of the thyroid gland subsequent to the description given by His have shown that the thyroid gland is chiefly developed from the median thyroid rudiment.[1] This rudiment, in the human embryo during the third week, grows out below the floor of the primitive mouth in intimate relation to the developing hyoid bone. As the neck of the embryo elongates, it is carried backwards as a pedunculated mass. Then the enlarged end becomes bilobed and forms the isthmus and major part of the lateral lobes of the normal thyroid gland, whilst the pedicle under normal conditions to a large extent disappears or portions become constricted off and isolated in the line from the pyramidal lobe to the foramen cæcum.

Persistence of thyroid gland tissue in the course of the thyreoglossal tract stands in an inverse relation to the normal development of the thyroid gland. In vertebrates below mammals the median thyroid rudiment is the only source of thyroid gland tissue as distinguished by alveoli containing colloid. The dog-fish has simply a median thyroid which is continued forwards through the hyoid cartilage to end beneath the skin of the tongue. But in higher forms behind the last branchial pouches, or from a freely developed fifth branchial pouch, there arises a pair of outgrowths, the ultimo-branchial (post-branchial, teleobranchial) bodies, which in mammals take some share in the formation of the lateral lobes of the thyroid gland.[2] Below mammals these ultimo-branchial bodies, although of an epithelial structure, do not exhibit follicles containing colloid. In echidna the lateral thyroid masses contain colloid but do not unite with the median thyroid process. In higher mammals this union occurs whenever normal thyroid gland is developed, but none the less the median thyroid rudiment has the largest share in its formation. Under normal conditions some thyroid gland alveoli containing colloid are generally found in the position of the pyramidal lobe. Also, but not so generally, as first discovered by Verneuil,[3] particles of thyroid gland tissue may be found at the root of the tongue.

From the clinical standpoint, however, no thyroid gland masses are noticeable in the course of the thyreoglossal tract under normal conditions; and, on the other hand, whenever such masses are met with the presumption should be that they are compensatory to some arrest in the development of the normal thyroid gland. More important still, when no proper thyroid gland is developed in the neck, then all the actively functional thyroid gland tissue is placed in the line of the thyreoglossal tract. If this suffices for the patient's needs the absence of the thyroid gland from its proper position passes unnoticed. When about puberty, especially in females, the thyroid gland tissue becomes temporarily more active and vascular, it is then that the existence of a mass at the base of the tongue, or about the hyoid bone in the neck, may present itself. Far from being a new growth or of recent formation, this ought to be considered a temporary parenchymatous enlargement of the patient's real thyroid gland, although it is not in the usual situation.

The median thyroid process in developing below the floor of the primitive mouth does so around a median ventral epithelial pouch. In the amphioxus this pouch is formed without any thyroid gland tissue around and, according to Wiedersheim, secretes mucus which sticks together entering food particles and so prevents them from being washed out again through the gills. In higher forms the epithelial sinus develops in the middle of the median thyroid rudiment, but the thyroid gland tissue always consists of closed alveoli containing colloid which do not open at any stage into the epithelial sinus. The glands which are formed by outgrowths from the epithelial sinus are similar to buccal glands; therefore this epithelial sinus is at no stage a duct of a thyroid gland. In man it forms the foramen cæcum, a blind pouch about 1 cm. deep into which open the mucous glands, to which it therefore forms a short common duct, and only in this limited sense can it be called the "lingual duct." Kanthack,[4] examining 100 adult cadavers, found the foramen cæcum absent in many cases and never any long sinus: the longest canal in a new-born child measured 5 cm. This epithelial sinus was called the "lingual duct" by Vater,[5] who by a forced injection made out a connexion between the foramen cæcum and the thyroid gland, a mistake repeated by others since Vater's time.

Whilst the normal condition in man is for a sinus lined by stratified epithelium to extend from the foramen cæcum a few millimetres backwards under the surface epithelium, and into which mucous glands open, it is subject to abnormalities of two kinds, a prolongation in the line of the median thyroid process, and a lateral branching. These persisting extensions may be lined either by squamous or by ciliated columnar epithelium, indicating that the sinus is developed at the junction of the primitive mouth with its covering of squamous epithelium and of the primitive pharynx lined by ciliated epithelium. But neither the squamous epithelium nor the ciliated columnar epithelium has any essential connexion with the thyroid gland.

When the prolongation of this epithelial sinus in the line of the median thyroid process is cut off from its connexion with the foramen cæcum, there is developed a cyst, which is usually seen in the neck just below the hyoid bone, less commonly underneath the position of the foramen cæcum. Therefore, although the median thyroid process is developed around this epithelial sinus, the two should be regarded as having no physiological connexion. Stillborn and non-viable myxœdematous infants such as are not uncommon in goitrous districts may present no development of thyroid tissue at all. The epithelial sinus and its outgrowths then exist alone. Thus in the case of a female child aged 3 months, 50 cm. in length and markedly myxœdematous, there was a complete absence of the thyroid gland, but in the position of the foramen cæcum an irregular epithelial cystic mass (Dieterlé[6]). Among a collection of 25, eight such cases were described by Ungermann.[7]

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* A paper read at a meeting of the Surgical Section of the Royal Society of Medicine on Feb. 10th, 1914.

In a myxœdematous infant a small, although insufficient, mass of thyroid tissue may be found. Thus a myxœdematous infant aged 6 months, 53 cm. in length, with short thick extremities, was noted post mortem to have no sign of a normal thyroid; there was an enlargement of the pituitary body and at the base of the tongue a cyst of the size of a pea with some thyroid gland follicles containing colloid in its wall (Ashoff[8]). Even if lateral thyroid or parathyroid masses exist in the neck, yet, if there has been a deficiency in the development of the median thyroid rudiment, myxœdema results. Hence, if on clinical examination no isthmus can be felt in front of the trachea, gland-like swellings alongside the trachea should be considered parathyroid, and not assumed to be true functional thyroid gland tissue.

Thus in a boy aged 3 months, 46 cm. long and markedly myxœdematous, along with a complete absence of the normal thyroid gland, there was found an epithelial cystic tumour at the base of the tongue, and in the neck on either side of the trachea four normal and eight accessory parathyroids. In the case of a girl aged 8 months with marked myxœdema there was an absence of a normal thyroid gland. At the foramen cæcum there was a sinus with branching tubes ending in *an epithelial cyst, and around this a very little* thyroid gland tissue. In the neck on either side of the trachea were altogether eight parathyroid masses (Erdheim[9]).

There may, however, be sufficient thyroid gland tissue developed at the base of the tongue. Thus, a *man aged 30 died after excision of the lip for* tuberculous disease. During life there had been no sign of any thyroid insufficiency nor of any swelling at the base of the tongue. Post mortem there was found lying under the foramen cæcum a mass of thyroid gland tissue the size of a chestnut, the alveoli containing colloid. There was no sign of a normal thyroid gland, but by the side of the trachea below the thyroid cartilage were on the right side two masses and on the left one, the size of peas, embedded in fatty and fibrous tissue. On microscopic examination these masses were found to resemble in structure the normal thyroid gland, but the alveoli did not contain colloid. The lingual mass had therefore been the only actively secreting thyroid gland, and the bodies beside his trachea were probably destitute of any such function (Ungermann).

From the standpoint of a clinical examination, then, it is of primary importance to recognise the presence of the isthmus of the thyroid gland or the reverse. When the isthmus is absent so that the tracheal rings from the cricoid cartilage downwards can be felt it should be assumed that the patient's actively secreting thyroid may have been developed in the course of the thyreoglossal tract, and although there may be a fulness on either side of the trachea suggesting the existence of lateral lobes, yet these may be parathyroids destitute of any true thyroid function.

This precaution has been ignored and cases of operative myxœdema following the removal of thyroid gland tissue in the course of the thyreoglossal tract have frequently occurred, and it has been estimated in a district where disease of the thyroid is frequent that it occurs in 1 out of 7 cases (W. H. Mayo[10]). But it is the individual cases which have to be carefully examined before deciding whether there are sufficient indications for the operation. A large number of the recorded cases show that lingual thyroids have been removed without taking note as to the proper development of the thyroid gland, and when they have been reported directly after the operation without waiting to see the result it is much to be feared that in some of the cases myxœdema supervened later. At any rate, there are a number of cases recorded in which myxœdema did subsequently arise and a review of them sufficiently explains the reason of its occurrence.

A tumour was removed from the base of the tongue of a girl, aged 14, after it had been noted for some months. It consisted of thyroid gland tissue with the alveoli containing colloid. A normal thyroid gland could not be felt. Some time later the patient died with symptoms of cachexia strumipriva (Seldowitsch[11]).

A cretin, aged 37, had a tumour the size of a walnut at the base of the tongue. When performing tracheotomy preliminary to excision no normal thyroid gland could be made out. The tumour removed showed thyroid gland tissue, partly normal, partly embryonic. The patient returned five months later suffering from cachexia strumipriva (v. Chamisso[12]).

A girl, aged 20, had no isthmus nor left lateral lobe, but there was a fulness supposed to indicate a *right lateral lobe. A tumour the size of half a nut,* consisting of thyroid gland tissue, was removed from the base of the tongue. Five months later a letter from the patient reported signs of myxœdema (Meixner[13]).

At the age of 7 a girl was noted to have an elastic *swelling the size of a marble in the middle line of* the neck at the level of the thyroid cartilage. It was removed and found to consist of thyroid gland tissue. Three weeks after the operation she began to show signs of myxœdema and continued under active medical treatment for ten years by thyroid extract, but remained at the time of the report in a state of chronic myxœdema (Morley Fletcher[14]).

On the other hand, many cases of lingual thyroid have been seen where the thyroid gland has been noted as absent, and then no operation of removal has been done. Since the two cases recorded by Butlin,[15] one of which afterwards showed signs of myxœdema, I have recognised the functional importance of a lingual thyroid. In three recent cases, all very similar, of girls about 20, with an absence of a thyroid isthmus and a swelling characteristic of a lingual thyroid at the base of the tongue, advice had been previously given that the swelling should be removed, whereas, on the other hand, I advised against any such procedure. I have lost sight of the first two; in a third case she had been to a throat hospital and given a card of admission for operation. I gave her a certificate stating that myxœdema would result if the swelling were removed. All three were suffering from a temporary vascular hypertrophy of the only thyroid gland they possessed. Painting with iodine, the administration of iodide of potassium, perhaps a careful exposure to X rays, should be the treatment.

Where the swelling at the base of the tongue has become so prominent as to impair the breathing or has ulcerated and hæmorrhage has followed, then the removal of a small wedge and suture, or a limited application of the cautery is all that is indicated. An extensive submaxillary operation may not only be excessive but, when a normal thyroid gland is absent, a serious blunder. Fortunately some of the extensive removals have been probably incomplete in spite of the statements of the operators that they had shelled out the tumours. These thyroid masses at the base of the tongue are not circumscribed, but have branches or semi-detached portions so that the patients have been saved from myxœdema in spite of the objective of the surgeon. Hickman[16] described an extreme case of the kind forming a tumour extending from the circumvallate papillæ to the epiglottis and deep into the tongue which caused the death of the infant 16 hours after birth.

Turning to patients possessing a normal thyroid gland it is from the median thyroid rudiment that accessory thyroids so-called arise. The explanation is that they are lateral buds from this tract which are displaced as the embryo grows. Thus they may be found in the floor of the mouth above the mylohyoid to one side or the other. The position of such accessory thyroids corresponds with that of the frog's thyroid gland, in which there is a mass on each side at the tip of the lesser cornu of the hyoid bone, dorsal to the sternohyoid muscles.

In Paton's[17] case an accessory thyroid mass about the size of a walnut was situated underneath the right sublingual salivary gland, which he removed from under the jaw. I removed from the same situation the tumour[18] exhibited which measures 2½ by 1½ by 1 inches; a male child, aged 3 weeks, was suffering from dyspnœa, it had apparently a normal thyroid gland, and I saw it some time after healing in good health. The tumour has the usual naked-eye and microscopic appearances of a fibrocystic thyroid adenoma, and in addition there are islands of hyalin cartilage which came from the region of the cornu of the hyoid bone.

A review of the cases where there has been an accessory thyroid to one or the other side of the true line of the thyreoglossal tract shows that where the normal thyroid gland has been developed their removal is sufficiently indicated; it is when the swelling is situated in the middle line that it may represent the true thyroid gland.

When there is a question in a doubtful case as to the necessity for operation, then it will be generally wise to treat the case expectantly. The only case which tended to become malignant that I can find recorded is the following. A woman, aged 42, with an apparently quite normal thyroid, had had a small tumour removed from the base of the tongue nine years before, when it was stated that not all had been removed. Two years later some enlarged glands were excised from the right submaxillary region; later there was a recurrence of the growth at the root of the tongue and in the right submaxillary region, and in addition an enlargement of the glands on the left side of the neck. At the first operation a mass of glands the size of the doubled fist was removed from the left side of the neck; at the second operation two enlarged glands the size of hazel nuts were removed from the right side, and a nodule the size of a small walnut from the base of the tongue. All showed thyroid gland tissue. The patient was exhibited six months later in good health without recurrence (Brentano[19]).

Thyreoglossal cyst.—The thyreoglossal cyst is generally situated in the neck, protruding just below the hyoid bone, forming whilst small a tense swelling as distinguished from a soft vascular thyroid tumour. It is, as explained above, the blind end of an epithelial sinus which has no functional importance. The cyst lies beneath the median raphe and the adjacent margins of the sternohyoid muscles; it is quite free from any connexion with the thyrohyoid membrane, but at the upper part of the cyst it is closely attached to the hyoid bone. If punctured it continues to discharge mucus, especially during deglutition; this mucus is derived from the mucous glands opening into the sinus especially near the foramen cæcum and from degeneration of the epithelium, but has no relation to thyroid secretion.

If the hyoid bone is hooked upwards, it may be possible to remove the cyst completely from behind the hyoid bone. But when the cyst extends up to the foramen cæcum and is of long standing, it has proved impossible to remove the whole of the cyst without dividing the hyoid bone.

I have thus divided the hyoid bone in the middle line when operating for the first time; but more especially when a fistula has persisted after a previously incomplete operation is this step necessary. In one case the patient had been operated upon elsewhere three times, in another case eight times before coming under my care. The excision of the cyst together with half an inch of the middle of the body of the hyoid bone was followed in both by permanent healing; the division of the hyoid bone is not followed by any disability. The latter case was exhibited at a meeting of the Clinical Section of the Royal Society of Medicine in May, 1913.[20]

In conclusion, I wish to express my thanks to the Royal College of Surgeons of England for permission to exhibit eight specimens from their museum.

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Portland-place, W.

PRIMARY CARCINOMA OF THE FIRST PART OF THE DUODENUM WITH SECONDARY INVOLVEMENT OF THE COMMON BILE-DUCT

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PRIMARY carcinoma of the duodenum is a rare disease. Its actual frequency, as estimated by Brill[1] from the post mortem records of Maydl, Nothnagel, Muller, and Lubarsch, is 0·3 per cent. of all cases of carcinoma (15 cases in 4675 deaths from carcinoma). In a majority of the recorded cases the disease has involved the second part of the duodenum, and in not a few of these the opening of the common bile duct has been implicated. The case here recorded appears to be unique in that a carcinoma arising primarily in the first part has, by direct extension, come to involve the common bile duct in the middle of its course, leading finally to a clinical picture in which the outstanding phenomena were those of obstruction in this latter situation.

On July 14th, 1913, a man, aged 61, was admitted to the wards of the General Infirmary at Leeds, under the care of Dr. A. G. Barrs. The appearance of the patient was striking. He was deeply jaundiced, the jaundice being remarkable for its ruddiness. He was feeble, wasted, and lethargic, obviously suffering from a dire disease. His complaints were three—yellowness of the skin, abdominal discomfort, and hiccough. The history obtained was marked by its brevity and was barren of assistance in accurate localisation of the primary condition. Three months seemed to cover the time that he was sensible of change in himself. For that period he had been troubled with indigestion of the flatulent variety, discomfort being almost continuous, though occasionally he was disturbed by paroxysms of pain coming on half an hour after food. Water brash was not infrequent, whilst less often he vomited a trifling amount of what he called "darkish coloured fluid." From the outset he had lost weight steadily, though more rapidly latterly. A month ago he noticed his urine getting darker, his motions paler, and then his skin became yellow, deepening rapidly in hue, and without remission. His past personal history revealed little, and for the last 12 years he had apparently been rigidly temperate in all things. His wife, however, told us that three years ago he had suffered from an attack of somewhat severe abdominal pain, localised to the upper part of the abdomen, not specially to one side, colicky in nature, unaccompanied by jaundice, and he had not passed anything abnormal by the rectum.

On admission the temperature was 100° F., but rapidly fell to normal, and remained so until the end. The pulse was 80 per minute, regular, though feeble. Frequent hiccough disturbed the patient and the examination. The abdomen was hollow, the skin of the lower part striated, and there was no distension of veins. There was some slight tenderness in the right hypochondrium, clinically *the liver was neither enlarged nor diminished*. The gall bladder was not palpable, nor were there signs of fluid in the peritoneal cavity. The stomach was not dilated, and peristaltic action of this organ or of the intestines was not seen. Rectal examination was negative. Examination of the urine revealed the presence of bile, some albumin, and numerous granular and epithelial casts. Leucin and tyrosin were not found. Neither the fæces nor the urine gave evidence of pancreatic insufficiency.

A diagnosis of "obstruction of the common bile duct by malignant disease" was made, there being insufficient evidence to implicate any organ as the primary seat. Dr. Barrs hesitated in making a diagnosis of either primary disease in the duct itself or of the duodenum. From the moment of admission the patient rapidly got worse, and the illness ended fatally four days later, on July 18th.

Post mortem examination.—External appearances. The integuments and conjunctivæ were stained an intense golden yellow colour. The little toes were markedly dorsiflexed and adducted, so that they came to overlap the next digit in each instance.

Internal examination. On laying open the intestine a tumour was found in the first part of the duodenum, commencing 1½ inches from the pylorus and extending along the gut for a distance of about 2 inches. The growth was 3 inches in length, and almost completely encircled the viscus, leaving only ½ inch of the anterior wall uninvolved. It was ulcerated in the centre, while the rest of the surface presented a honeycombed necrotic appearance, save at the extreme margin. The bile papilla and opening of the common duct were situated about an inch below the tumour, and appeared normal. Between the papilla and the lower margin of the growth, and immediately abutting on the latter, there was a diverticulum about ¾ inch in depth, and just wide enough to admit the tip of the little finger. The common duct, where it lay in relation to the duodenal tumour—that is, about an inch below the junction of the cystic and hepatic ducts—was itself the seat of an annular new growth completely encircling the lumen, and apparently directly continuous on its deep aspect with the duodenal growth. Above the tumour there was marked dilatation of all the bile passages, gall bladder, common duct, cystic and hepatic ducts, but that the obstruction was anatomically incomplete was shown by the ease with which a probe could be passed through the stenosed portion of the tube, and so through the remaining portion of the common duct to the intestine. The dilated bile passages, both intra- and extra-hepatic, were filled with a thin slightly bile stained, mucoid fluid, while their walls presented a curiously pitted appearance.

The liver on section was soft and fatty looking, and showed a considerable degree of bile staining, especially around the dilated hepatic ducts. There were several secondary deposits of new growth, of which the largest, about the size of a hazel nut, was necrotic and bile stained in the centre. The pancreas presented no evidence of new growth, but several of the lymph glands in relation to it were the seat of secondary deposits. The spleen was fibrous but of normal size. There was an accessory spleen the size of a hazel nut immediately above and in front of the left adrenal. The latter *glands were of very large size, and the brown zona* reticularis was unusually prominent. The kidneys, which were markedly bile stained, were of small size, and were embedded in a very large amount of fat. On section, cortex and medulla were badly differentiated, although the former was not unduly narrow. There were several small puckered depressions on the surface of both organs, clearly the result of a starvation fibrosis.

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[1] American Journal of the Medical Sciences, 1904, vol. cxxviii., p. 824 (Bibliography).

The lungs were emphysematous, congested, and somewhat œdematous, and there were old pleural adhesions on the left side. The aorta was bile stained and contained several atheromatous patches. The heart contained large agonal thrombi extending into the aorta and pulmonary artery on each side. The mitral valve showed marked thickening of the cusps and of the chordæ tendineæ, but there was no stenosis. The other viscera, including the stomach, presented no features worthy of note.

Microscopic examination.—Various portions of tissue were taken for histological investigation as follows: (1) Duodenal growth, (2) growth in common duct, (3) nodule in liver, (4) lymph gland deposits, and (5) pancreas. The general structure of the tumour is definitely cancerous, and for the most part the type is that of an adeno-carcinoma. This is best seen in the case of the lymph gland deposits and in the liver nodules, where the acini are large and well developed, being separated in the more central parts by a considerable amount of fibrous stroma. In the duodenal and common duct tumours, however, there is well-marked evidence of anaplasia, a reversion to a spheroidal cell and mixed cell type of growth without acinar formation. In these situations the cells show great variation in size and shape, and not a few are possessed of multiple nuclei, but mitotic figures are comparatively few in number. Many of the cancer cells, especially in the larger alveoli, show degenerative changes, both mucoid degeneration and varying degrees of necrosis. There are areas of massive necrosis in the centre of the duodenal tumour, in the larger liver nodules, and in the glands related to the pancreas. The duodenal tumour is fairly well defined at the margin, but it has extended through the whole thickness of the bowel wall, and is in direct continuity with the deep aspect of the common duct growth. The histological appearance of these two tumours is precisely similar, in our opinion strongly indicating that one is secondary to the other. The pancreatic tissue, while not actually invaded, is in direct contact with the lymph gland deposits. It presents a normal appearance, with large and prominent islets of Langerhans. The liver is the seat of advanced cloudy swelling, proceeding in parts to actual necrosis of the hepatic cells. Where it surrounds the carcinomatous nodules the liver tissue is compressed and infiltrated by the new growth.

Comment on the clinical diagnosis of this case need not be laboured by conjuring up fanciful possibilities, for the problem unravels itself up to a point, beyond which we enter upon the domain of pure speculation. That the trouble did not lie in the head of the pancreas was fairly obvious, for the gall-bladder was not distended, and signs of pancreatic insufficiency were wanting. A diagnosis of enlarged glands in the portal fissure secondary to disease in the stomach did not meet the facts of the case, owing to the absence of physical signs in that organ and absence of ascites. Primary malignant disease in the first part of the duodenum, a diagnosis of which is dependent upon the signs of pyloric obstruction, was equally unsatisfactory as a solution of the problem. Lastly, primary malignant disease of the common bile-duct as the only cause revealed obvious shortcomings, and however impatient one might be of ignorance, the only logical outlet from the *impasse* was, as Dr. Barrs pointed out, to wait and see which of the two latter conditions post-mortem examination would show to be the cause of the man's death.

From the pathological standpoint the chief problem for solution was, Which was the primary growth—that in the duodenum or that in the common duct? The possibility that we had to deal with two separate tumours of independent origin was almost too remote to be worthy of consideration, but it may be pointed out here that not only were the tumours in this case precisely similar in histological structure, but they were directly continuous with one another. After careful consideration we have come to the conclusion that the duodenal tumour was the primary, and for the following reasons: 1. The gastric symptoms were of three months' standing, whereas the jaundice had only been in existence one month. 2. The type of tumour was very suggestive of a carcinoma of bowel origin. 3. There were secondary deposits in the liver and lymph glands, an event which occurs more frequently and earlier in duodenal cancers than in those of common duct origin. 4. The duodenal tumour was more extensive and the seat of more advanced degenerative changes than the common duct growth.

That the tumour was of a highly malignant character was shown both by the rapidity with which it killed the patient and by the presence of hepatic and glandular dissemination. The histological characters, showing reversion to a spheroidal cell and mixed cell type of growth, also bore this out.

We are indebted to Dr. Barrs for permission to publish the above notes.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.[1]

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THE Wassermann reaction is not a complement fixation reaction brought about by the interaction of a true specific syphilitic antibody in the patient's serum with the syphilitic spirochætes. The antigenic value of the antigen used in the original reaction has no relationship to the richness of the organ in spirochætes—in fact, an emulsion of spirochætes as antigen gives only very feeble complement fixation, if any, with a syphilitic serum. The only other possible way in which the original antigen as used by Wassermann might be superior to others derived from non-syphilitic sources might be that the organ from which the antigen is made contained products of the action of the spirochæte, which might cause complement fixation with a syphilitic serum. If this were so the antigenic value should be directly proportional to the spirochæte content, which it is not. For this reason the original Wassermann reaction has no claim for superiority over any subsequent modifications.

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[1] A paper read before the Pathological Section of the *Royal Society* of Medicine on Feb. 3rd, 1914.

We consider that the antigenic value of an antigen depends on the degree of autolytic degradation that it has undergone before extraction. As the original Wassermann antigen was extracted from organs which frequently showed various degrees of autolysis, this antigen was more frequently antigenic than those used in later modifications. By reference to the following table (Table I.) it will be seen that a syphilitic fœtus liver rich in spirochætes only acted as a good antigen when it had undergone a certain degree of autolytic degradation. We were fortunate in being able to obtain a syphilitic fœtus which died during delivery, so that we could obtain a perfectly fresh liver for testing. The fresh organ (1) showed practically no antigen value; the same organ (2) when autolysed showed a good antigenic value. The rest of the table shows that the autolysed condition of the organ and not its spirochæte content confers the antigenic value on extracts made from it. All the modifications introduced in the Wassermann reaction show that the trouble throughout has been to obtain a powerful reliable antigen. In order to get over this trouble the latest modification, the addition of cholesterin, has been introduced. Now cholesterin cannot act as an antigen; it can only act by inhibiting the action of complement, and thus mask the complement which is left unbound by the feeble antigen.

TABLE I.—*Showing the Dependence of Antigenic Value on Autolytic Degradation and not on Spirochæte Content.*

No.	Description of antigen.	Hæmolytic titre.					Sections showed.
1	Syphilitic fœtus liver; child died during delivery. Fœtus frozen, liver extracted 12 hours later.	c.mm. 500	c.mm. 300	c.mm. Slight (300)	c.mm. ?	*Nil.*	Numerous spirochætes.
2	Same liver, autolysed three days, room temperature.	400	100	40	Slight (60)	"	"
3	Liver (congenital syphilis) fairly fresh.	500	300	100	Slight (100)	"	"
4	Liver (congenital syphilis), slightly macerated fœtus.	400	60	30	60	"	Few spirochætes
5	Liver (congenital syphilis), fairly fresh when obtained, autolysed for three days, room temperature.	400	80	80	100	"	"
6	Liver (congenital syphilis), fœtus showing maceration; liver very autolysed.	300	80	60	100	"	Numerous spirochætes.

The organs were first dried in vacuo and finely powdered. A 1 in 10 suspension was made in normal saline. This was shaken mechanically for 6 hours and centrifuged. The clear supernatant fluid was used as the antigen.

As a result of our investigations we have come to the conclusion that not only is it unnecessary but unsafe to use an anticomplementary antigen, and still more so to add further anticomplementary substances. In the first place, it is easy to obtain with absolute certainty a really powerful antigen for the reaction, free from all anticomplementary substances, so that as little as 0·000003 grm. of this antigen will, in the presence of syphilitic serum, cause complete fixation of the quantity of complement used in the Wassermann reaction. The antigen is a purified phosphatid, having the nitrogen phosphorus ratio, N_1P_1. obtained from an organ *autolysed* at room temperature for 24–36 hours.

Table II. shows that the antigenic value of a phosphatid depends upon the degree of autolysis of the organ from which it is obtained. (The smaller the quantity which contains the unit of antigen the stronger the antigen.) The organs were obtained immediately on the death of the animal, cleaned and minced while still warm, and divided into several parts. One part was dried at once in a current of warm air and desiccated *in vacuo*. The other parts were autolysed at room temperature for 18, 24, 36, 48, and 72 hours. The N_1P_1 phosphatids were obtained from each portion, were purified until they were no longer anticomplementary or hæmolytic, and were put up at 3 per cent. in absolute methyl alcohol. From the methyl alcohol solution a 10 per cent. suspension was made in normal saline.

Now, looking at Table II. we see that the fresh organ phosphatids *possess no antigenic properties*. In 18 hours these properties begin to develop, they are at their maximum from 24–36 hours and then begin to wane. All the phosphatids can act as good antigens provided they are extracted from suitably autolysed tissues. The only reason for using the N_1P_1 fraction is the ease with which it can be handled.

TABLE II.—*Showing that the Antigenic Value of a Phosphatid depends on the Degree of Autolysis.*

No.	Heart I.		No.	Kidney II.	
		* Antigenic in—			* Antigenic in—
1	Fresh.	*Nil* (in 500 c mm.).	1	Fresh.	*Nil* (in 500 c.mm.).
2	Autolysed 18 hours.	4 c.mm.		—	—
3	Autolysed 24 hours.	2 c.mm.	2	Autolysed 24 hours.	2 c.mm.
4	Autolysed 36 hours.	2 c.mm.		—	—
5	Autolysed 48 hours.	8 c.mm.	3	Autolysed 48 hours.	10 c.mm.
—	—	—	4	Autolysed 72 hours.	30 c.mm.

* Antigenic in = complete fixation of 2 units of complement in the presence of *100 c.mm. of inactivated syphilitic serum with this quantity* of the phosphatid suspension.

The Fallacy of Using Anticomplementary Substances for Increasing the Delicacy of the Reaction.

We have been investigating the means of increasing the delicacy of the Wassermann reaction and have come to the conclusion that the addition of anticomplementary substances besides being unnecessary introduces a fallacy in the reaction. As we shall show next, the magnified complement inhibition which occurs when an anticomplementary substance like cholesterin is added to syphilitic serum and antigen, is not characteristic of syphilis as is stated by Browning and MacKenzie, Sachs, and others. It also always occurs when an anticomplementary substance, like cholesterin, is added to an already anticomplementary mixture. First of all, Table III. shows what we have called the "anticomplementary adjuvant phenomenon." Experimenting with the serum of a non-syphilitic corpse (1) 40 c.mm. of this is found to be anticomplementary to less than ¼ of a unit of complement. (2) Now 80 c.mm.—i.e., twice this amount—should be anticomplementary to less than ½ a unit, but when tested it is found to be anticomplementary to 1¼ units. (3) We have 200 c.mm. of a cholesterin suspension; this is anticomplementary to less than ¼ of a unit. (4) Now 400 c.mm. of the cholesterin should be, at this rate, anticomplementary to ½ a unit, but when tested it is found to be anticomplementary to more than ¾ of a unit. (5) Now if we take a mixture of 40 c.mm. of corpse serum and 200 c.mm. of cholesterin we might expect it would be anticomplementary to less than ½ a unit, but when tested we find it anticomplementary to more than 1¼ units. Thus, when dealing with a mixture of substances of very slight anticomplementary power, we get a fixation of complement considerably greater than could possibly be expected from estimating each separately, and which would in a Wassermann reaction have been regarded as indicating a slight positive reaction.

TABLE III.—*Showing the Anticomplementary Adjuvant Phenomenon.*

No.	—	Complement. Units ... ... / Quantity in c.mm. ...	1 20	1¼ 25	1½ 30	1¾ 35	2 40	2¼ 45	2½ 50	Anticomplementary power. Calculated.	Proved.
1	Serum Corpse E	40 c.mm.	VMH	C	C	C	—	—	—	—	Less than ¼ unit.
2	Serum Corpse E (as 1)...	80 c.mm.	SH	SH	SH	SH	MH	MH	C	Less than ½ unit.	More than 1¼ units.
3	Suspension of cholesterin.	200 c.mm.	VMH	C	C	C	—	—	—	—	Less than ¼ unit.
4	Suspension of cholesterin (as 3)...	400 c.mm.	SH	SH	MH	MH	C	C	C	Less than ½ unit.	More than ¾ unit.
5	Serum Corpse E (as 1) + cholesterin (as 3)... ...	40 c.mm. 200 c.mm.	SH	SH	SH	MH	MH	MH	C	Less than ½ unit.	More than 1¼ units.

The anticomplementary substances and complement were added together and the bulk brought up to 2 c.c. with normal saline. The mixture was incubated for 1 hour and then 1½ units of amboceptor and 1 unit of red cells added. C = Complete hæmolysis. VMH = Very marked hæmolysis. MH = Marked hæmolysis. SH = Slight hæmolysis.

In Table IV. we see another example of the adjuvant phenomenon, the influence of cholesterin in the Wassermann reaction: (1) shows us a phosphatid antigen which in the quantity used is not anticomplementary; (2) is a Wassermann reaction with a weak syphilitic serum; (3) is the anticomplementary power of the added cholesterin; (4) shows how enormously the addition of cholesterin apparently magnifies the Wassermann reaction (compare 2). So that at first sight it appears that cholesterin has a very remarkable influence on the Wassermann reaction, making a weak serum give a powerful result. Now turning to (5) we have here a normal serum which has been allowed to stand and has developed anticomplementary powers. In the quantity used it will be noticed that this serum inhibits as much complement as (2) (the syphilitic serum and antigen mixture). Now (6) shows that when cholesterin is added to this anticomplementary normal serum we get as much fixation as occurred in (4). (7) and (8) show that there is no increase in complement inhibition on adding the anticomplementary serum to a non-anticomplementary antigen. The serum in (5) is anticomplementary to 1½ units, the cholesterin to 1 unit. The mixture of these two would be expected to be anticomplementary to 2½ units; in reality it is to more than 5 units—that is, more than double what is expected.

TABLE IV.—*Showing the Influence of Cholesterin in the Wassermann Reaction.*

No.	Complement Units ... / Quantity ...	1 20	1½ 30	2 40	2½ 50	3 60	3½ 70	4 80	5 100	6 120	Units of complement interfered with.
1	Phosphatid antigen	C	C	C	C	C	C	C	C	C	0
2	Phosphatid antigen (as 1*) + syphilitic serum	SH	MH	VMH	C	C	C	C	C	C	1½
3	Phosphatid antigen (as 1) + cholesterin emulsion	SH	MH	C	C	C	C	C	C	C	1
4	Phosphatid (as 1) + cholesterin (as 3) + syphilitic serum (as 2)	O	O	O	O	O	O	O	SH	SH	More than 6.
5	Anticomplementary normal serum ...	SH	MH	VMH	C	C	C	C	C	C	1½
6	Anticomplementary normal serum (as 5) + phosphatid antigen (as 1) + cholesterin (as 3)	O	O	O	O	O	O	O	SH	SH	More than 6.
7	Anticomplementary normal serum (as 5) + phosphatid antigen (as 1)...	SH	MH	VMH	C	C	C	C	C	C	1½
8	Anticomplementary normal serum (as 5) + another phosphatid antigen (not anticomplementary)...	SH	MH	VMH	C	C	C	C	C	C	1½

* (as 1) = in the same quantity as in Experiment 1. C = complete hæmolysis. VMH = very marked hæmolysis. MH = marked hæmolysis. SH = slight hæmolysis. O = no hæmolysis.

Thus, we see that cholesterin merely magnifies any anticomplementary effect, whether already present or induced by the Wassermann reaction. It is owing to the failure to appreciate this "*anticomplementary adjuvant phenomenon*" that people who use anticomplementary antigens are continually reporting positive Wassermann reactions with anticomplementary sera from corpses, after anæsthetics and hypnotics, and in scarlet fever, &c.

We would not for a minute dispute the fact that cholesterin has been of undoubted value in enabling a reading to be obtained by magnifying the slight degree of complement fixation occurring when a syphilitic serum is exposed to a weak antigen, but the addition of cholesterin is the confession of a weak antigen and is absolutely unnecessary if the antigen used is sufficiently powerful. In addition it introduces sources of error, it may be only in a small percentage, which the use of a powerful non-anticomplementary antigen avoids. Some cases are apparently positive when they should be negative, the result being purely due to the summation effect of two pre-existing anticomplementary factors. On the other hand, others are missed, the failure to get a positive result being due to the feeble antigenic power of the antigen used. The complement fixation here is so small that it is not appreciably magnified by the adjuvant effect of the cholesterin.

In conclusion: 1. It is always possible to have an extremely powerful antigen which will keep its power unaltered for months. 2. It is possible to have an antigen which is not anticomplementary, so that summation and adjuvant phenomena cannot play a part in the reaction. 3. The use of cholesterin and other anticomplementary substances in antigens for the Wassermann reaction is not only unnecessary, but introduces a very serious source of error.

Our method of increasing the delicacy of the reaction is: 1. To diminish the amount of complement used to 1½ times only, that which will cause complete hæmolysis of the system adopted. 2. To [illegible] *a cubic centimetre or more,* [illegible] serum. 3. To use 50 to 100 [illegible] By this method purely anticomplementary phenomena do not play a part. Anticomplementary effects being rendered obvious in the control, true complement fixation, even when minimal, can be readily demonstrated. In this way (1) cases which would otherwise give a slight reaction, so slight as to be doubtful on the ordinary reaction, give a full fixation; (2) cases which otherwise give a negative can be made to give a full reaction, thus bringing in a large number of latent cases; and (3) no fallacious results with other diseases have been obtained.

DECOMPRESSION OF THE BRAIN IN INTRACRANIAL HÆMORRHAGE:

THE VALUE OF THE OPERATION IN CASES THE OUTCOME OF ACCIDENT OR DISEASE.[1]

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I propose dealing with the question of decompression from the point of view of injury only, and that also from a clinical aspect. The wording of the subject for discussion is sufficiently clear. We are not asked in any way to express our views with regard to the desirability of operation for such localised hæmorrhages as middle meningeal hæmorrhage, subdural hæmatoceles, &c. The subject matter is strictly confined to a discussion of the advantages that may be obtained by decompression for the *average* case of head injury, for doubtless you will agree with me when I state that the average case of head injury is lacking in the essentials of localisation, all localising symptoms being obscured or completely lost in the general clinical picture of concussion or compression.

We are asked, therefore, to discuss decompression in relation to concussion and compression, and we can at once exclude all the minor grades of concussion. They are obviously of such a type as to require no operative treatment whatsoever. We are thus left with the more serious and prolonged cases of concussion and cases of definite compression. Taking the former type first—the grave concussion cases—my experience tells me that the mortality in such cases is exceedingly high, the outlook most grave, and that the majority die within 36 to 48 hours, without evidencing the slightest attempt at reaction, with a markedly subnormal temperature, a rapid pulse-rate and a lowered blood pressure, the latter symptoms being referable to the cardio-vascular depression.

Now, insomuch as the prognosis in these cases is so grave and that of compression is relatively hopeful, I am of opinion that we ought to adopt heroic measures, utilising every means in our power to force on a stage of reaction, more especially by the adoption of rectal or intravenous infusion, even at the risk of so raising the blood pressure as to bring on fresh bleeding within the skull. If the stage of reaction *can* be induced the patient will probably pass from the stage of profound concussion into that of definite compression, a condition affording some hope of a favourable issue if decompression measures are carried out at the right time and in the right manner. I think that such cases *may be included amongst those requiring decompression.*

Still, it is those well-defined cases which are, so to speak, compressed at an early stage which so urgently require operative treatment, cases in which the patients, after passing through the initial stage of concussion, common to all cases of head injury, exemplify the more typical symptoms of compression within a few hours of the accident. There can, I think, be but little doubt that such cases urgently demand decompression. For the purpose of argument, let us take the symptom-complex of well-developed compression, the so-called "manifest" stage. Here I quote from Kocher: "There is widespread capillary anæmia. The medulla is markedly affected. The period of vaso-motor regulation has set in with its high blood pressure, and this, with its vagal quality, gives the pulse its bounding character. The rise in blood pressure shows a definite rhythm. There are also rhythmic alterations in the size of the pupils, with alternate increase and decrease in the depth of stupor, so that the up-wave causes the patient to moan, become irritable, and thrash about, whilst the down-wave sees him completely comatose. The pulse is markedly affected, the respiration becomes rhythmic and Cheyne-Stokes in character, and the discs evidence pronounced choking. All reflexes are abolished, cyanosis is extreme, and respiration snoring."

This is the picture of "manifest" compression, a graphic illustration of the fight that is being put up by the vital centres against the increased, and perhaps increasing, intracranial pressure, a struggle for existence which will almost certainly terminate against the patient unless all possible reinforcements are brought to his aid. Our general attitude towards this state of affairs is inexcusable. We stand by and do nothing, with the almost inevitable result that the patient passes into the paralytic stage, a stage characterised by increasing rapidity of the pulse-rate, a steadily falling blood pressure, increasing coma, muscular relaxation, and respiratory paralysis.

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[1] A paper introductory to a discussion on Decompression of the Brain at the Medical Society of London on Feb. 9th, 1914.

In fatal cases definite evidence is always to be obtained as to the pathological conditions leading up to compression, hæmorrhages in relation to the membranes, laceration of the brain, and cerebral œdema, and it is clear that it is the increasing intracranial pressure which induces the compression symptoms. Now Leonard Hill's experiments showed that a very slight increase of intracranial tension, anything over 5 per cent. of the intracranial capacity, will suffice to bring about these compression symptoms. Very little will induce compression, and very little will relieve it when present. Take, for example, a case of cerebral contusion with secondary spreading œdema. The cerebro-spinal tension and intracranial venous pressure are practically equal under normal conditions, but in the case in question the venous engorgement and the consequent increased intracranial venous pressure is at once followed by a transudation of fluid from the veins into the meshwork of the pia-arachnoid, into the cerebral substance and into the subdural space. Such excess of fluid is found in all cases, whether at the operation or in such fatal cases as come to necropsy. A decompression operation, even if it fails to bring to light the existence of an extradural or subdural extravasation or area of brain laceration, will at any rate allow of the escape of some of the fluid, will diminish the degree of compression in direct proportion to the amount of fluid escaping, and will allow of time for the recovery of the medullary centres.

I think it must be accepted, both from the theoretical and clinical points of view, that decompression is urgently demanded in suitable cases, where the temperature is steadily rising, where unconsciousness is deepening, where the blood pressure is high and the pulse-rate slow. This is the critical time in the case, and this is the moment at which decompression should be carried out. To wait longer courts disaster. To decompress a patient in the later or paralytic stage of compression, when the pulse-rate is increasing, the blood pressure falling and respiration failing, is an unsatisfactory method of treatment. Still, it is quite justifiable because by the decompression operation some intracranial hæmorrhage may be discovered and the tide thus turned in favour of the patient. Such operations, however, are more exploratory than decompressive.

The value of decompression being acknowledged, I would raise the question as to the decompressive assistance which may be obtained by *lumbar puncture* and *venesection*, either by themselves or in conjuction with a decompression operation.

First, with regard to *lumbar puncture*. In my opinion it is utterly useless for the relief of compression which is dependent on intracranial injuries, though repeated time after time. In addition, there is a positive danger that the sudden escape of cerebro-spinal fluid and blood may lead to the medulla being forced down into and "corked up" in the foramen magnum, with immediate disastrous results. Such an accident not infrequently happens when lumbar puncture is carried out for neoplasms of the brain, and I have seen the same disaster occur in traumatic cases. On the other hand, I consider that considerable benefit may be derived from *venesection*, both in mild cases of compression when carried out alone, and in the more serious cases when utilised in conjunction with decompression operations. The benefits derived, unquestionable from my personal experience, are in all probability dependent on the reduction of the intracranial venous pressure and the consequent diminution of the degree of cerebral œdema.

Some decompression operation being decided on, what is the best method? There are two chief operations, *cerebellar decompression* and *subtemporal decompression*. In comparing the relative advantages and disadvantages of these two methods, it is necessary to take into consideration the critical condition of the patient, and I think that the method chosen should fall into line with the following desirable features:—

1. Insomuch as the vital centres are in a most unstable position—more especially the respiratory centre, which almost invariably gives out first—the operative position should be one in which there is as little disturbance of respiratory function as is possible. In other words, it is of importance that the patient should be on his *back*.

2. The *site* chosen for the operation should be a convenient one for the surgeon, so that the attack can be carried out deliberately.

3. *Hæmorrhage* should be capable of control during the operation. The sudden loss of any quantity of blood will imperil the action of the vagus and vaso-motor centres, both of which are in a position of considerable instability.

4. An *area* should be chosen where the skull is thin, so that the trephining and enlargement of the gap may be carried out expeditiously and with the least disturbance to the patient.

5. The area "*attacked*" should be a "*likely*" area, one where hæmorrhage in relation to the membranes or where brain laceration is likely to be found.

6. The *region* of brain exposed should be a "*silent*" area, for the sudden relief of intracranial pressure may lead to such protrusion of the brain that disastrous results will ensue in the event of the motor area or cerebellum being involved.

7. The *relief* of intracranial pressure should be *gradual* in character, not sudden and violent.

Taking these factors into consideration with respect to *cerebellar* decompression, it is clear that this particular method is lacking in many essentials. Admittedly, the operation is conducted in close relation to the medullary centres, with proportionate pressure relief, but the relief is *too drastic*. Again, the position required for the operation is bad for the patient and most inconvenient for the surgeon. Respiratory failure is always to be feared in cerebellar operations, and hæmorrhage may be profuse and difficult of control. Altogether this operation is not to be commended. In previous years I regarded it as the operation of choice and carried it out on several occasions. I doubt, however, whether I have ever saved a life by cerebellar decompression. I have abandoned this operation.

On the other hand, take *subtemporal* decompression, the intermusculo-temporal method of Harvey Cushing. This particular operation fulfils all the requirements of a satisfactory decompression. The patient is on his back, and respiration is not interfered with. The site is a convenient one for the surgeon, and hæmorrhage may be kept under control, first by pressure over the superficial temporal artery, and secondly by quiet and deliberate methods of operation. In addition, the skull is thin, readily trephined, and readily cut away according to requirements. Consider now the relation of the operation to "likely" and "silent" areas. It is conducted over the territory of the middle meningeal artery, and *injuries of this vessel are of frequent occurrence* though they may not, and usually do not, give rise to the so-called typical symptoms of a middle meningeal extravasation. Again, the region of brain exposed is the front aspect of the temporo-sphenoidal lobe, an area of brain lacerated with greater frequency than any other part of the cerebrum or cerebellum. In consequence, I regard subtemporal decompression as the method of choice.

With regard to the *side* on which the operation should be conducted, there can be no question that in all doubtful cases—that is to say, in cases devoid of all localising symptoms—the decompression should be carried out on the *right* side, thus avoiding any possibility of including in the hernial protrusion the motor speech area of Broca. I have a clear recollection of one case in which a left-sided operation was conducted rather too high, and which resulted in well-marked motor aphasia, fortunately of a temporary character only. In all cases, however, one is guided in the choice of side by the site at which the blow was applied, by an examination of the fundus, and by a critical investigation into the temperature on the two sides of the body. Thus, if the blow was received in the right occipital region it is probable that the left temporo-sphenoidal lobe is the site of the laceration—laceration by *contrecoup*—and the operation is there conducted. Again, if there is any marked congestion of the discs the operation is carried out on the side on which the change is most pronounced. Finally, in the event of any marked difference in the temperature on the two sides of the body, the decompression is made on that side which shows the greater elevation of temperature.

Blood pressure records taken during the course of the operation will enable the operator to appreciate whether a sufficient relief has been attained. If not, the same operation is carried out *on the opposite side* as well.

There may be some difference of opinion with respect to the *size of the opening* which it is necessary to make in the skull, but my experience tells me that, within certain limits, the larger the opening the greater the degree of decompression. The comparative small size of the opening obtained in a subtemporal operation has been regarded as a point against this particular operation. I feel sure, however, that, by forcible retraction of the temporal muscle, one is enabled to obtain an opening of sufficient size, it being borne in mind that the decompression should be gradual, not violent.

With regard to the desirability of *opening the dura mater*, whatever difference of opinion may be existent with respect to this course in the palliative treatment of neoplasms of the brain, there can be no question that the membrane must be opened, and that freely, in all decompressions for injury. It is only by such means that a real decompression may be brought about, blood and cerebro-spinal fluid draining away into the tissues of the temporal region, where, under favourable circumstances, they are reabsorbed.

Now, with regard to the *technique of the operation.* Shaving of the head may be confined to a limited area, ample margin, however, being allowed for the conduction of the operation. The skin is sterilised with iodine, after which the head is covered with a sheet of gauze four layers thick, space being allowed for the administration of the anæsthetic if such should be required. During the *operation blood-pressure records should be taken* every few minutes, following the various stages of the operation, the assistant reporting to the surgeon the changes that may take place.

Efficient *hæmostasis* is of great importance, for reasons previously stated. Whilst an assistant compresses the superficial temporal artery as it passes over the base of the zygoma an incision is made through gauze and skin, which commences one inch behind and above the external angular frontal process, curves along the temporal crest, is then directed downwards towards the zygoma, and terminates immediately in front of the tragus of the ear. This incision falls short, at its commencement, of the external angular frontal process with the object of avoiding that branch of the facial nerve which passes forwards to the anterior belly of the occipito-frontalis muscle. The incision, lightly made, includes the skin and subcutaneous tissues only, the various branches of the superficial temporal artery being seized by the assistant as soon as they are exposed or divided. By adopting these precautions the total amount of blood lost is quite inconsiderable.

The flap—comprising skin, subcutaneous tissues, and the superficial temporal artery—is turned down towards the zygoma. At the base of the flap care must be taken to avoid wounding the artery, this vessel being responsible for the nutrition of the flap. The temporal fascia is now exposed. It is also turned down as a flap, the line of incision falling immediately short of the skin incision. The temporal muscle, now exposed, is split in the direction of its fibres, in the centre of the field, from above downwards, and forcibly retracted on either side.

For *trephining* it is necessary to have such an instrument as will work [illegible] least possible danger of [illegible] structures. For example, [illegible] meningeal artery during the process of trephining complicates the *operation and adds needless risk* to the procedure; the patient is not in a condition to stand any serious hæmorrhage, such as may well occur before the bleeding points can be secured. The older hand-trephine, though fairly safe in experienced hands, always presented the disadvantage in that the artery and *dura mater* were liable to injury. In this modern instrument there is no such danger. It is stated, and I think truly so, that you could not injure the dura mater if you tried. The mechanism of the trephine is such that it ceases to work, or requires excessive force to make it work, so soon as the resistance is overcome—that is to say, as soon as the internal table is perforated. It presents one disadvantage only—the trephine hole is small. With suitable bone-cutting instruments, however, this is easily overcome.

The trephine is placed over the angle between the anterior and posterior branches of the middle meningeal artery. In spite of such precautions, however, it is not always possible to avoid an immediate exposure of the main trunks, a fact which appears at first sight as a disadvantage to this operation in general. As previously stated, however, there is but little chance of actually wounding the vessel under modern methods of trephining.

After perforation of the bone the dura mater is stripped away from the under surface of the bone and the gap enlarged with craniectomy forceps, of which no better type exists than Horsley's parrot-billed forceps. They are admirable instruments so long as the operator is contented with "small bites at the cherry," small fragments being removed at each time. The bone is cut freely away, downwards to the base of the skull, forwards and backwards so far as the retracted temporal muscle permits, whilst in the upward direction the process is more sparingly conducted, thus avoiding any possibility of including Broca's area and the lower motor areas in any hernial protrusion that may ensue after the opening of the dura mater. The gap in the bone should be oval in shape, about 3 by 2 inches, the long axis in the antero-posterior direction and parallel to the line of the temporo-sphenoidal lobe.

Before *opening the dura mater* it is necessary to underrun and ligature the various branches of the middle meningeal artery on either side of the lines proposed for dural section. The membrane is opened by crucial incision, all possible care being taken to avoid injury to the underlying congested cortical veins. The brain is probably at high pressure and at once bulges out when the membranous capsule is incised.

The *brain exposed*, the temporo-sphenoidal lobe, may be lacerated and obscured by blood clot, it may be œdematous or normal in appearance. In the first case, when lacerated, all blood clot is washed away by low-pressure irrigation with saline solution at a temperature between 110° and 115° F., after which a small rubber drain is inserted so that the distal end lies in relation to the opening in the skull and dura, the proximal end being brought out between the otherwise approximated temporal muscle and through a special button-hole in the skin. This drain should remain in position for 36 to 48 hours, after which it is shortened day by day.

When the brain is the seat of a spreading œdema or normal in appearance, the dural flaps remain open, the temporal muscle is brought together with a few catgut stitches, the temporal fascia replaced in the best position possible, and the skin sutured with interrupted silk or salmon-gut stitches.

With regard to after-treatment, morphia is of the greatest value and should be administered freely. It keeps the patient quiet and lessens the degree of shock.

In addition to the *advantages already claimed* for the subtemporal method of decompression there are others: the scar is inconspicuous, concealed by the hairy scalp, the protrusion of the brain is protected and restrained by the temporal muscle and fascia, receding in direct proportion to the recovery rate of the patient, and the gap in the skull is adequately protected by the overlying muscle and fascia.

So far as *results* are concerned, it must be borne in mind that we are dealing with the most severe lesion that the human body can be subjected to, and, in consequence, that a high recovery rate is not to be expected. The surgeon will meet with many disappointments, but, from my own experience, I would urge that they are more than compensated for by certain brilliant results. I shall not trouble you with statistics. Such tables are always full of fallacies, and errors are especially liable to be included in cases of this particular nature. Suffice it to say that the average mortality in head injuries, estimated at 50 per cent., may be reduced 10 or 15 per cent. by decompressions carried out at the right time and in the right manner.

Finally, there is another point to consider—the after-history of these cases of head injury. A large proportion of those that recover without operation suffer from the many distressing remote effects, such as headache, epilepsy, insanity, &c., and, in consideration of the pathological conditions regarded as responsible for such developments, I think it fair to argue that an exploratory decompression operation carried out at the right time will tend towards the reduction in number of such disastrous results.

Montagu-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ARTERIO-VENOUS ANEURYSM FOLLOWING OSTEOTOMY FOR GENU VALGUM.

BY W. MANSON FERGUSSON, M.D., CH.B. ABERD., L.M. ROT. HOSP. DUB.,
SURGEON, CHALMERS' HOSPITAL, BANFF.

Arterio-venous aneurysm or aneurysmal varix following an osteotomy of the femur for genu valgum must be comparatively rare, and that fact, along with the rather remarkable recovery which the case made after somewhat heroic treatment, has prompted me to record it.

A child, aged 2½, was admitted into Chalmers' Hospital, Banff, on Dec. 17th last with a note from her medical attendant requesting her admission "for immediate operation." I was informed also that the patient had been operated on for genu valgum some six weeks previously at a hospital attached to a medical school and had been discharged cured. For the week previous to admission she had been very fretty and running a slight temperature and complaining of pain in her knee.

On admission the temperature was normal and the pulse-rate was 136. The child looked very ill and would hardly allow the knee to be touched, so great was the pain. The left knee was twice the size of the right, the swelling being fairly uniform but rather more to the inner side of the joint. Fluctuation could be made out, but there was no pulsation felt. The superficial veins were enlarged over the inner side of the swelling, and there was a linear scar 1½ inches long right in the middle of the thigh immediately above the joint. I resolved to cut down upon the swelling, being inclined to think that the condition present was one of suppuration and that the reason the temperature was normal was that the child had got fairly well chilled during the railway journey to hospital.

Dr. J. C. Galloway administered an anæsthetic and I cut down upon the swelling midway between the old scar and the adductor tubercle. After getting through the skin and subcutaneous tissues I came upon a tense tissue, like the fascia lata of the thigh, between the sartorius and the vastus internus. I put on a tourniquet and then incised this swelling and found it to be an arterio-venous aneurysm formed by the popliteal vein and getting its arterial blood through a hole in the inner side of the popliteal artery. The sac was rather bigger than a turkey's egg and had exerted such pressure upon the femur that an area of the size of a shilling on the inner surface of the bone was quite dark in colour and devoid of periosteum. The hole in the artery was below the level of origin of the anastomotica magna artery and the superior articular arteries, so I ligatured the artery immediately above the hole and ligatured the vein at a point before it became enlarged. I then cut away the redundancy of the sac wall and left the wound open with a gauze drain down to the bare portion of the femur. The limb was bandaged to a splint and kept elevated for a few days, but at no time did the circulation of the foot show sign of failing. The child improved daily in appearance and rapidly became ready to be discharged with a perfectly sound leg.

If the child had been in more expert hands the procedure would probably have been vessel suture, but as I had never done any vessel suture and had no fine enough silk ready I had to have recourse to ligature of the vessels entering into the formation of the aneurysm, happily with good results.

Banff.

RUPTURE OF THE HEART DUE TO ANEURYSM OF THE MYOCARDIUM.

BY FRANK M. HUGHES, M.R.C.S.ENG., L.R.C.P.LOND.

THE subject of this note was a dock labourer, aged 49, who had never had any symptoms of heart trouble, and for the last 15 years had never been under medical treatment. He walked six miles to his work two days before his death, and then did hard work on an oil-tank each day until the third day, when he dropped down dead on the oil-tank.

At the post-mortem examination the pericardium was found to be full of blood clot. In the anterior wall of the left ventricle near the apex was an aneurysm of the size of a walnut, which had ruptured. The aneurysm communicated directly with the left ventricle. Fibrous degeneration of the myocardium at the site of the aneurysm was apparent. There was fatty degeneration of the whole heart muscle. There was no disease of any of the valves, no mesaortitis, and no atheroma in the aorta. The arteries were healthy. The liver, kidneys, and spleen were healthy. There was no evidence or history of syphilis.

The case is of interest in that the man had never suffered any pain or inconvenience with his heart. He had been a hard worker all his life, and had been passed several times as fit for work by a medical man. Also in the fact that there was absolutely no evidence or history of syphilis.

Gravesend.

ROYAL MEDICAL BENEVOLENT FUND.—A general meeting of this Fund will be held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., on Thursday next, Feb. 26th, at 5 o'clock. The annual report will be read and certain formal business transacted. It is hoped that as many as possible of those interested in the work of the Fund and its Guild will take the opportunity of meeting together. There will be no speeches, but tea will be provided.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

The Thyreoglossal Tract.—Drainage in Septic Peritonitis.

A MEETING of this section was held on Feb. 10th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. W. G. SPENCER read a paper on the Thyreoglossal Tract, which appears in full on p. 522.

Mr. HENRY CURTIS read a paper on the Most Efficient Method of Drainage in Septic Peritonitis, and for its prevention in immediate suture of perforated gastric and duodenal ulcers, &c. The object of the paper was to advocate the more general adoption of the methods of drainage taught, if not originated, by the late Mr. Bidwell, modifying the technique, however, according to the method of the author, who exhibited a drainage-tube introducer which obviated theoretical objections in Bidwell's scheme and greatly facilitated rapid introduction of the tube through the rectum, Douglas's pouch, or through the loins, in the case of subphrenic drainage, &c. (For a description and illustrations of this instrument the reader is referred to another page in this issue.) The two principles of efficient drainage for the prevention or treatment of septic peritonitis consisted in: (1) arranging for the escape of the irritating fluid (gastric or duodenal contents, &c., or actual pus) at the lowest point to which it tended to descend, rather than by the up-hill (hypogastric) route, above the pubes, commonly in vogue; and (2) routine subphrenic drainage, to prevent the frequent tendency to the formation of subphrenic abscesses, even when the general peritoneal cavity had been successfully drained after immediate suture of the stomach or duodenum. Such abscesses commonly resulted when extensive adhesions formed between the adjacent edges of the diaphragm and liver, or spleen, so shutting in the very irritating extravasations from stomach, duodenum, &c. Drainage obviated this danger. 1. Rectal drainage: It had long been the custom to drain [illegible] women, and a modifica[illegible] -men and for men would give better results in the majority of cases than drainage up-hill through a tube passed down to the floor of the pelvis through a suprapubic incision, even when a gauze wick was employed. Allusion was made to the difficulty of re-inserting the wick down to or beyond the inner end of such a tube stitched into the wound during the first few days, and a probe with two shor[illegible] usual bulbous point was [illegible] the anterior wall of t[illegible] of the prostate in men, was pierced from within out by the closed points of a large Wells's forceps. The points were made to appear per anum, where they grasped a wide drainage-tube, which was then dragged into the pelvis, so that its inner end, supplied with lateral holes, lay about one inch below the sacral promontory. The outer end was stitched to the perineum and drained into a bottle. 2 Routine subphrenic drainage. Bidwell made a vertical skin incision in both loins one inch behind and above the anterior iliac spine, and, protecting the bowel by a hand passed through the laparotomy wound, the closed points of a large Wells's forceps were thrust between the muscle fibres and so into the peritoneal cavity and out through the front wound. A tube fed into the opened blades of the forceps was dragged through the front wound and out through the loin, and its inner end was then put into the interval between the diaphragm and liver on the right side, and between the spleen and diaphragm on the left side. The tubes were sutured at their exit through the skin. Once these subphrenic and rectal drains had been inserted, the peritoneal cavity was freely flushed with several quarts of hot saline solution at 112° to 115° F., any adhesions found being gently but thoroughly separated. Objections to Bidwell's technique: 1. As to the rectal or vaginal route, the risks of drawing up a drainage-tube from without in were discussed but dismissed by Mr. Curtis as being, in his considerable experience, more theoretical than practical, provided free flushing was employed, which had the additional advantage of greatly reducing shock and immediately improving the patient's condition. To obviate the theoretical objection that Bidwell's method was "unsurgical," Mr. Curtis modified the technique and devised a cylindrical drainage-tube introducer, having one end slightly curved and blunt-pointed, to puncture with; the other end bulbous, for attachment of the drainage tube. In all cases, rectal, vaginal, or subphrenic, the tube was inserted from within out, and the inner end of the tube was then pushed into the appropriate region. Introduction could be more rapidly and safely performed by this instrument than by means of Wells's forceps. 2. As a drainage through the loins, whether of the subphrenic regions, or in cases of appendicitis abscess, which Bidwell recommended to be drained through a loin puncture, closing the front wound (except for a gauze-wick passed down to the extraperitoneal tissue, in view of infection of the abdominal wall), the objections in practice were: (*a*) that such loin-drains tended to kink sharply where passing through the abdominal wall obstructing the drainage; (*b*) the inner ends of the subphrenic drains tended to slip out of position and to protrude towards the mesial line. The same objections held for drains passed through the loin to drain an appendix abscess cavity. To obviate this difficulty Mr. Curtis inserted into all loin drainage tubes thin pewter rods, which allowed the tube to be moulded according to need and to lie snugly in the desired position, while permitting the freest drainage. A gauze wick might also be used if desired. Rectal drainage rapidly ceased, usually in from three or four days, and the tube was withdrawn accordingly. This applied also to the loin tubes. In conclusion, Mr. Curtis reported a case of overlooked appendicitis abscess in a young man who walked up to the hospital from his work on the fifth day of illness. He was found to be in a condition of most severe septic peritonitis, the distal half of the appendix being detached and discovered adherent to the anterior abdominal wall. The abdomen was full of the most offensive pus, containing streptococci and B. coli. Remarkable improvement at once followed, but after 48 hours vomiting set in and became fæcal. Paralysis of the bowel from adhesions was diagnosed on the third day, when the abdomen was therefore again opened. A distended coil of small intestine lying horizontally across the epigastric region was found and traced to a firm band attached to the great omentum in the right hypochondrium. This was divided, and recovery followed. In spite of the many triumphs already achieved, with greater vigilance, promptness, and boldness Mr. Curtis considered that the mortality from septic peritonitis was capable of being still greatly reduced, ignorance in the early stage and timidity subsequently being the two chief factors responsible for the present too high rate.

CLINICAL SECTION.

Cases in which Splenectomy has been Performed or is Contemplated for Disease.

A MEETING of this section was held on Feb. 13th, Dr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. T. R. WHIPHAM described four cases of Splenic Anæmia occurring in the father and three children of one family. He said that the incidence of this disease in two successive generations was very rare. The blood counts in them all were very similar and the differential counts were practically identical. The lymphocytes and polymorphonuclears were correspondingly increased. The red cells were diminished and showed alteration in size, shape, and nucleation. Another feature was eosinophilia, which could possibly be explained by the presence of a tapeworm in the father; but this was not so in the case of the children. He did not think that splenectomy was indicated for the father and a boy who were in a fairly good state of health, but it had to be considered in the cases of the two other children (girls), who had marked anæmia and whose blood had deteriorated lately.

Mr. PERCY SARGENT showed a case of this disease after splenectomy. The patient, a girl aged 10, recovered from the operation, but six weeks later severe hæmatemesis occurred, and was followed by pyrexia and a varying amount of diarrhœa. The leucopenia was replaced by a considerable leucocytosis, but now, 13 months later, the blood had become normal except for a slight increase of lymphocytes.

Dr. GEOFFREY HOFFMANN showed a case in a girl, aged 12, from whom the spleen had also been removed. She had had hæmatemesis, epistaxis, purpura, and melæna. The blood condition rapidly improved after the operation, and was still normal more than two years later.

Dr. HERBERT FRENCH and Mr. PHILIP TURNER showed a patient, aged 5, whose case had been diagnosed as one of splenic anæmia of the infantile form, and who had rapidly recovered after splenectomy. A younger sister had a similar condition. He thought that the cause was probably syphilis, although antisyphilitic treatment had been unsuccessful.

Sir J. BLAND-SUTTON advised splenectomy for the boy shown by Dr. Whipham. He thought that the result would be so good that it would afterwards be performed for the other cases of the family, the father excepted.

Dr. G. R. WARD disagreed with the diagnosis in the family group of cases. There was slight yellowness present due to blood destruction. The blood counts were typical of acholuric jaundice.

Dr. F. PARKES WEBER agreed with Dr. Ward. If enlargement of the spleen occurred in a family in which adults as well as children were affected and was associated with anæmia, the condition was the same as that of hæmolytic jaundice, although jaundice might not be present. No member of the family had leucopenia, which was strong evidence against splenic anæmia. Dr. French's cases belonged to a class which formed a group in themselves, in which cachexia, anæmia, and splenic enlargement were associated with congenital syphilis, but antisyphilitic treatment did no good. They were not syphilitic, but were engrafted on a syphilitic base.

Sir WILLIAM OSLER said that the remittent fever accompanied by eosinophilia in Dr. Whipham's cases indicated trichinosis, in which the eosinophilia often persisted. He also considered them examples of a form of hæmolytic jaundice. He referred to the importance of distinguishing cases of congenital syphilitic cirrhosis of the liver accompanied by enlargement of the spleen and hæmatemesis from splenic anæmia. He had long urged the value of excision of the spleen in the latter, and it had been shown emphatically that this procedure produced a cure.

Dr. C. R. BOX said that the case shown by Dr. French had formerly been under his care, and he regarded the patient as an example of von Jaksch's anæmia. The case showed that splenectomy did good in that condition. He had treated a similar case in which there was slight increase of fragility of the red cells. The spleen was removed, and though the patient died from an abscess in the stump, the blood condition improved greatly. There was a connecting link between cases of von Jaksch's anæmia, of acholuric jaundice, and of the splenic anæmia of adults.

Cases of Acholuric and Hæmolytic Jaundice were shown by Dr. W. ESSEX WYNTER and Sir J. BLAND-SUTTON, Dr. J. HUGH THURSFIELD, and Sir BERTRAND DAWSON. Dr. WYNTER and Sir J. BLAND-SUTTON'S case was one of congenital acholuric jaundice which had recovered completely and rapidly after splenectomy. Dr. WYNTER said that he had found that in such cases it was usual for an excess of cells to be present after removal of the spleen, but this afterwards subsided. It looked as though there was a compensatory overproduction which persisted for a time. In considering the advantages of splenectomy one ought to regard, not only the possibility of a fatal issue, but also the chances of enjoying the full functions of life.

Dr. THURSFIELD'S case was also one of congenital acholuric jaundice which had recovered after splenectomy. He insisted on the importance of separating out such cases from those of splenic anæmia. He thought that the fragility of the red corpuscles was a definite means of distinguishing acholuric jaundice. In true splenic anæmia this was either normal or less than normal.

Sir BERTRAND DAWSON thought that they would have to recast their present classification of such cases and had had to modify his views as to the value of fragility. He recounted cases of hæmolytic jaundice without increased fragility. The jaundice was due to over-production of bile pigments, and it was possible that the spleen might be so destructive that it broke up corpuscles of normal fragility. He regarded the manufacture of the precursors of bile pigment as a function of the spleen. Fragility persisted in spite of removal of spleen, and this was so in the case on which Sir Spencer Wells had operated and which was now under his care In hæmolytic jaundice there were phases of so called bilious attacks and bile in the urine, he was in the habit of exploring the gall bladder in such cases and commonly found either gall stones or bile mud present, a condition which should be dealt with first In cases in young people a large spleen was found, but this was not necessarily so, and in older patients hæmolysis probably occurred without splenic enlargement

Dr PARKES WEBER said that the association with gall stones had been described by Gilbert, but the proportion of cases was not a large one The speaker had suggested the name "splenomegalic anæmia" for those cases where there were anæmia and hæmolysis but no jaundice He suspected that the presence of bile pigment in the blood without bile salts might be the cause of the increase of the fragility In obstructive jaundice, where both were present, there was an increased resistance

Dr JAMES GALLOWAY showed a case which he regarded as a case of *Splenic Anæmia of the Banti type* There had been very severe gastro intestinal hæmorrhages and the spleen was considerably enlarged There was no evidence of syphilis An ascites had appeared rapidly, which he suggested might be due to portal thrombosis He invited opinions as to the advisability of removal of the spleen

Mr W D SPANTON said that with the progress of surgery excision of the spleen had become justifiable In 1863-1875 the mortality was 75 per cent, in 1876–1885, 59 per cent, and in 1885–1895 16 per cent

Other speakers favoured removal of the spleen in Dr Galloway s case

Fleet Surgeon P W BASSETT SMITH showed a case of Kala azar in an adult from Malta Every fourth day the man was being treated by intramuscular injections of atoxyl and of a vaccine prepared from his own cultivated bodies obtained by puncture of the liver Constant counter irritation had been applied to the splenic area and yeast had been given to increase if possible the white cells During the 10 months he had been under treatment he had not lost ground No question of splenectomy arose in this case

SECTION OF LARYNGOLOGY

Exhibition of Cases and Specimens

A MEETING of this section was held on Feb 6th, Dr D R PATERSON, the President, being in the chair

The following showed cases and specimens —

The PRESIDENT (1) A case of Double Intranasal Dacryocystotomy for Lacrymal Obstruction, and (2) epidiascopic exhibition of diagrams and skiagrams illustrating the Intranasal Operation on the Lacrymal Sac

Dr DAN MCKENZIE (1) A case of operation on the Tear duct, and (2) a case of Thyroglossal Cyst

Mr E B WAGGETT (1) Resection of Pharynx for Carcinoma, and (2) Resection of Larynx and Pharynx

Mr CECIL GRAHAM (1) A case of Pharyngectomy for Recurrence of Carcinoma after laryngectomy three and a half years previously, and (2) ? New Growth of Ventricle of Larynx

Mr G H L WHALE (1) Advanced Gummatous Laryngitis in a patient giving an obvious luetic history and showing gummatous scars on arms, (2) Lupus of Nose, and (3) a case of Sphenoidal Sinusitis after operation showing good drainage

Mr G WILKINSON (1) Inflammatory Fixation of the Left Arytenoid following alleged impaction of a foreign body in the larynx, and (2) *Foreign Body* (a piece of book binding wire) removed under direct laryngoscopy, after having been impacted in the larynx four months

Mr H A KISCH A case of Orbital Cellulitis due to ethmoidal and frontal sinus disease

Mr J F O MALLEY Extensive Cicatricial Pharyngeal Diaphragm following Scarlet Fever

Dr P WATSON WILLIAMS Specimen to show the exhibitor s Method of Opening the Antrum Intranasally for Chronic Suppuration

Mr W STUART LOW A man upon whom a double Ogston's Operation had been performed for Chronic Frontal Sinus Disease

Dr JAMES DONELAN Case of Double Paralysis of the Superior Laryngeal Nerves in a man aged 26, in the course of disseminated sclerosis from lead poisoning

Mr O W M HOPE (1) Double Abductor Paralysis in a child aged 8, and (2) a case of a man with "Habit Grunting" with no obvious cause

Mr E D DAVIS Note of the result of treatment of the case of Unusual Adductor Paresis

Mr HUNTER TOD A case of Syphilitic Laryngitis

Dr W H KELSON A case of Fixation of Right Vocal Cord for diagnosis

Mr W DOUGLAS HARMER A case of Pharyngeal Cyst

MEDICAL SOCIETY OF LONDON.

Decompression of the Brain.

A MEETING of this society was held on Feb 9th, Sir DAVID FERRIER F R S, the President being in the chair

Mr L BATHE RAWLING opened a discussion on the Value of the Operation of Decompression in cases of Intracranial Hæmorrhage the outcome either of accident or disease His paper will be found in full on p 529 of this issue of THE LANCET

Dr P HAMILL spoke from his experience gained by experimental investigation in cats carried out by Mr J E H Roberts and himself He said that decompression was indicated in certain cases of cerebral hæmorrhage especially in those fulminant cases in which coma rapidly set in with great respiratory embarrassment In such cases death usually occurred within 24 hours It was not advocated for all cases The clinical syndrome was essentially similar in hæmorrhage, embolism and thrombosis the difference was chiefly one of degree The amount of blood effused was probably not sufficient to produce the symptoms in all cases There was no effusion in embolism and thrombosis Effusion of blood, thrombosis, or infarction of any organ or tissue was rapidly followed by the development of œdema In the brain this soon produced increased pressure The results of increased intracranial pressure were (1) Embarrassment of the respiratory centre, stertor and cyanosis, (2) rise of blood pressure, (3) slowing of the pulse (vagal inhibition), and (4) prolonged cardiac failure due to (*a*) excessive strain, or (*b*) inefficient oxygen supply to the heart, the result of the respiratory failure Three questions arose Was the rise of blood pressure intrinsically bad? Should we bleed to reduce it? Did the hæmorrhage tend to continue? Some physicians advised bleeding in cases seen early in order to produce a temporary lowering of blood pressure and thus to give an opportunity for clotting to occur There was much to be said for this practice Probably the hæmorrhage was all over in a few minutes in most cases unless rupture into the ventricle or under the arachnoid occurred In many cases the clinical history tended to support this view In animal experiments the brain herniated immediately after decompression, but did not continue to do so Rise of blood pressure was a compensatory mechanism and to lower it to any extent carried with it grave risks of respiratory failure Animals bled rapidly died Bleeding appeared to benefit some grave cases probably because the heart, weakened and dilated from lack of oxygen (the result of dyspnœa) dilated and therefore worked less efficiently, bleeding relieved the distension and allowed the heart to contract down and to resume work The intracranial pressure could be relieved by lumbar puncture or by operation Lumbar puncture was at best only a temporary measure and was not devoid of grave risk of sudden death from the formation of a pressure cone The decompression operation was an efficient method of lowering the pressure, in some cases it was not necessary to turn down a large dural flap provided that on puncturing the dura cerebro-spinal fluid flowed freely and the patient was relieved Animal experiments illustrated this point. It was a matter for the skill and experience of the operator Blood might burst through the cortex and produce rapid relief, drainage would then be necessary In most cases a general anæsthetic was not necessary, and was better avoided owing to its tendency to cause a fall of blood pressure Probably a local anæsthetic should be administered as Crile's work indicated provided there was sufficient time available to allow it to be used The chief points which might be urged in favour of operation were the following The danger was not great and was small compared with the condition of the patient The results on recovery would probably be better since there would probably be less scarring: (*a*) less destruction of brain round the clot owing to there being a smaller amount of compressed œdematous tissue; and (*b*) if the clot was turned out there was less to absorb and so a shorter convalescence. The risks of pneumonia were less if there was restoration of normal breathing. Subtentorial hæmorrhage had a very high mortality; probably many cases could be saved. Numerous successes had been recorded by various authors. It might be urged that there was risk of recurrent hæmorrhage. The size of the risk was at present unknown. It was present in all cases of cerebral hæmorrhage, and hæmorrhage might also follow thrombosis. In many case of hæmorrhage localisation of the lesion was difficult; it was probable that the site of the decompression was not of much importance. The point was under investigation.

Mr. **ROBERTS** said that there were a few points which had not been brought out by Dr. Hamill, but which appeared from their investigations: (1) That the effects of hæmorrhage were due to compression and not to the injury itself; (2) that artificial respiration should be readily obtainable; and (3) that the application of decompression to the meningeal hæmorrhages of the newly born was advisable and had been successfully performed.

Mr. C. A. **BALLANCE** said that he thought the time was not far off when all varieties of intracranial hæmorrhage would be considered as clearly surgical as were other forms of hæmorrhage. It had long been recognised that fracture of the cranial vault, when accompanied by cerebral symptoms, should be treated by operation whether there was or was not any obvious depression of bone, but the same practice was by no means so generally followed in the treatment of fractures of the base of the skull, notwithstanding that these fractures were liable to be infected by the openings of the nose, the ear, and the pharynx. The effused blood, which induced an increased secretion of the cerebro-spinal fluid and œdema of the brain, must be evacuated whether it was within or without the dura or intracerebral in location. Effusion of blood within the cranial cavity might occur from injury in such amount that life was immediately threatened, and would be destroyed if the pressure was not promptly relieved. Intradural hæmorrhage might be complicated by injury to a sinus. Such cases demanded immediate operation. Intradural hæmorrhage did not always call for immediate operation, and it was only in the later stages that such cases came into the surgeon's hands. Hæmorrhage also occurred into the subarachnoid space and into the brain itself in injuries which lacerated the brain, even when no fracture of the skull had occurred. Referring to apoplexy, he said that the chief difficulty in the study by operation of these cases was that acute apoplexy was seldom seen in hospital practice, and in operation for chronic apoplexy the best results could not be obtained. In conclusion, he would urge that operation was the rational treatment in all the types of cases mentioned, especially in fracture of the base and in acute apoplexy, which had, until now, seldom been considered as urgently demanding surgical intervention.

Mr. W. G. **SPENCER** said that he preferred the suboccipital site for decompression when the site of the lesion was unknown, and by that means often came down upon the hæmorrhage. There were certain difficulties in the way of subtemporal decompression. He always trephined cases of compression as far as he was able if the patients were going downhill. He narrated certain cases in which decompression had been performed with advantage, and one of apoplexy in which the heart improved promptly after the operation. Referring to the experimental evidence, he did not think that the results could be transferred from the cat to the human being. There were difficulties in connexion with the stimulation of the dura and cortex, which might follow the procedure employed by Dr. Hamill and Mr. Roberts, and he suggested that the dog and monkey would be the better animals for the purpose.

The **PRESIDENT** spoke with regard to the advisability of operation in cases of apoplexy. There were many questions to be answered. Which were the suitable cases? How long should one wait? Was there any great risk from damage to the brain? There were many things other than pressure to be considered in such cases. Might not another burst of hæmorrhage be produced by the operation? He said he would be very guarded in recommending the operation for spontaneous apoplexy.

HARVEIAN SOCIETY OF LONDON.

Discussion on Oral Sepsis in its Medical and Surgical Aspects.

A MEETING of this society was held on Feb. 12th, Mr. J. **JACKSON CLARKE**, the President, being in the chair.

Dr. **WILLIAM HUNTER** opened a discussion on Oral Sepsis in its Medical and Surgical Aspects. He referred to the frequency with which oral sepsis was met and the far-reaching character of its effects. Its seriousness lay not so much in its mere presence as in its association with open wounds in the mouth. The peculiar anatomical disposition of the teeth made the proximity of sepsis a particularly dangerous one. He spoke of the frequency of tonsillitis and chronic inflammatory conditions of the naso-pharynx when oral sepsis was present. Septic gastritis was a common complication. Septic anæmia arising from this source was frequently superadded to other diseases such as phthisis, nephritis, and specific fevers, and might constitute a serious disease in itself. He regarded pernicious anæmia as a disease *sui generis* but intensified by anæmia of septic origin, and treatment devoted to this factor had greatly improved the prognosis. He did not advocate such wholesale extraction of the teeth as was sometimes performed. What was needed was the advent of an era of antiseptic medicine comparable to that of antiseptic surgery.

Mr. W. H. **DOLAMORE** spoke from the point of view of the dental surgeon. He did not think that wholesale removal of the teeth was justifiable except in comparatively rare cases where severe systemic disorders followed.

Dr. C. **BUTTAR** said that he would like to ask the wholesale extractors and the vaccinists what proportion of their cases could be described as cures? and did the percentage justify the pain, the disappointment, and the distress of an edentulous lower jaw caused in those who were not benefited by the treatment? In his own practice, amongst ten patients treated by different specialists, only one professed to be relieved of his symptoms. He narrated several cases in which extreme measures had been far from satisfactory, and urged enthusiasts to consider carefully whether they were not doing rather more harm than good by this form of treatment.

Mr. G. **COATS** thought it was very questionable whether chronic irido-cyclitis was connected with oral sepsis. Post-operative inflammation might be due to it and therefore septic teeth should be removed before intra-orbital operations.

Mr. D. C. L. **FITZWILLIAMS** corroborated Dr. Hunter's view that tuberculosis of glands was engrafted on adenitis arising from oral sepsis, and agreed with him as to the importance of septic teeth in causing tonsillitis.

MANCHESTER PATHOLOGICAL SOCIETY.

Leucocytic Reaction after Repeated Serum Injections.—Perforating Ulcer of the Aorta.—Acute Perforating Diverticulitis of the Pelvic Colon.—Congenital Heart Disease.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 11th, Dr. A. **BROWN** being in the chair.

Dr. J. S. C. **DOUGLAS** read a paper on the Leucocytic Reaction after Repeated Serum Injections. In an experiment on man a leucocytosis followed the subcutaneous injection of normal horse serum and also of diphtheria antitoxin given a few days later, but when antistreptococcic serum was subsequently introduced none was observed. This failure of leucocytosis in the third experimental period was discussed, and with the aid of experiments on rabbits it was shown that neither the presence of antibody in the serum nor the induction of the anaphylactic disease would serve as an explanation, but that it was possibly due to some failure of the leucocytic system to respond to the repeated serum injections similar to that found by Jörgensen in the formation of agglutinin after repeated doses of antigen. The possible bearing of this observation on the treatment of patients with repeated injections of serums was pointed out.

Dr. P. R. **COOPER** described a case of Perforating Ulcer of the Aorta which had caused fatal hæmothorax. The patient, a man, aged 45, had complained of pain in the left side and upper dorsal region for two or three months. He was distinctly anæmic. There was no evidence of syphilis or injury, but there was a probable history of influenza shortly before the commencement of symptoms. There was absence of any confirmatory signs or symptoms pointing to spinal disease, aneurysm and gastric or duodenal ulcer or cancer. At the necropsy the left pleural cavity was filled with blood clot, and the lung and pleura were adherent to [illegible]

hole with well-defined margin about 1 inch in diameter, perforating all the coats; the rest of the aorta was normal except for some small patches of atheroma. The adjacent bodies of the fifth and sixth dorsal vertebræ were partially eroded. It was suggested that the condition might have been due to a circumscribed aortitis, probably influenzal in origin.

Mr. **JOHN MORLEY** described a case of Acute Perforating Diverticulitis of the Pelvic Colon. The patient was a man, aged 50, who was sent into Ancoats Hospital as a case of retention of urine. There was a history of pain in the left lower abdomen for a week, much worse the last two days before admission, attended with constant painful desire to micturate and great difficulty in the act. A silver catheter was passed without difficulty, and the urine, beyond containing some albumin, was not abnormal. There was frequent vomiting and absolute constipation in spite of enemata. The abdomen was generally distended and tender and somewhat rigid, but chiefly so in the left iliac fossa. There was shifting dulness in the left flank. Diagnosis lay between peritonitis due to a misplaced appendix, acute perforating diverticulitis, or thrombosis of the inferior mesenteric vessels. Operation under spinal anæsthesia revealed general peritonitis. The appendix was normal, but the pelvic colon was thickened and adherent to the bladder. In spite of peritoneal toilet and drainage the patient died five hours later. Post mortem, a necrotic perforation was found in the pelvic colon of the size of a threepenny piece. Round this, projecting into the bases of the appendices epiploicæ, were several small diverticula or herniæ mucosæ. It seemed plain that fæcal impaction in one of these pouches had led to gangrene *of the pouch and perforation. Diverticula of the pelvic* colon were found in elderly subjects with chronic constipation. The complications which might give rise to symptoms were as follows: (1) chronic thickening of the pelvic colon and plastic adhesions (peridiverticulitis), producing a mass that simulated cancer; (2) cancer might supervene on chronic diverticulitis; and (3) acute inflammation due to fæcal impaction might give rise to (*a*) general peritonitis or (*b*) a localised abscess. Such an abscess might rupture into the bladder, producing (*c*) a vesico-intestinal fistula. The adhesion to the bladder and intense pain on micturition showed that in the case under discussion such a fistula was within a little of being produced.

Dr. **CHARLES H. MELLAND** gave an account of a case of Congenital Heart Disease in which it was recognised that the heart's apex beat was to the right and the liver dulness on the left. At the post-mortem examination (the child was 1 year and 3 months old and a patient at the Northern Children's Hospital) complete transposition of all the viscera was found. The heart showed [illegible] of the pulmonary orifice, with [illegible] and patent ductus arteriosus. [illegible] that have been made that cong [illegible] result of fœtal rheumatism, or, more recently, is the result of congenital syphilis, the occurrence of the widespread developmental defect with the cardiac lesion strongly suggested that the congenital heart disease in this case, as he believed in all others, was purely a developmental defect and not in any way due to either of the two other suggested causes.

Dr. **MELLAND** also showed macroscopic and microscopic specimens from a case of Melanotic Sarcoma. The patient was admitted into Ancoats Hospital with enormous enlargement of the liver and ascites. There was a history that he had had one of his eyes removed for melanotic sarcoma some 12 or 13 years before, and at the post-mortem examination melanotic sarcomata were found widely disseminated throughout the various organs and tissues of the body. No other possible primary source was to be detected, and it was of much interest to speculate on what was happening in the long period between the removal of the primary growth and the general dissemination of secondary tumours.

Dr. **MELLAND** also showed specimens from a case of [illegible] The boy, aged 12, had had [illegible] one axilla for six years. [illegible] that period, occasionally almost disappearing under arsenic, in the way so typical of Hodgkin's disease. In the end, however, treatment had failed, and at the necropsy it was found that extensive dissemination, particularly in the abdominal organs, had occurred. The liver, pancreas, abdominal lymph glands, and kidneys were invaded and in some cases almost replaced by lympho-sarcomatous masses. Whether these were true secondary growths or were evidence of general sarcomatous transformation of pre-existing lymphoid tissue was difficult to be certain about, but the fact that the Peyer's patches were extensively involved seemed to point to the latter explanation as the most likely.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

The Presence of Complement in Infectious Diseases.—Anomalous Forms of Enteric Bacillus.—Excretion of Salt and Nitrogen in Nephritis of Scarlet Fever and Diphtheria.—Wassermann Reaction in Children from Poorer Classes.

A MEETING of this society was held in Ruchill fever hospital on Jan. 30th, Mr. **A. ERNEST MAYLARD**, the President, being in the chair.

Dr. **W. C. GUNN** discussed the Presence of Complement in Infectious Diseases. He said that in enteric fever he had found complement always present, and as a rule more abundant throughout the period of pyrexia than during convalescence. Diminution in its amount in favourable cases seemed to coincide with the production of immune body. Severity of the attack bore some relation to the amount of complement present. In patients who were very ill complement as well as immune body might be produced slowly, or only a weak type of complement might be present. *In patients moderately ill a relatively small amount of* complement seemed to indicate the presence of a considerable amount of immune body, but not sufficient to terminate the attack. In the intermediate type of illness, the most common, a large amount of complement was usually found. During relapses complement was increased, and diminished when recovery was taking place. Death from enteric fever appeared to be due chiefly to absence of immune body. Complement was sometimes very abundant in fatal cases, but at other times only a weak type might be present. Complement and immune body were not produced in any fixed ratio to one another. In the majority of cases of erysipelas examined complement was present in greater amount during the acute stage than during convalescence, the diminution apparently coinciding with the production of immune body. In diphtheria varying results were obtained. In 10 severe cases complement was greater in amount during the acute stage than during convalescence. In 5 moderately severe cases the amount was greater during convalescence. In 4 cases little or no complement was present during the whole illness, while in 2 cases of fatal diphtheria of the hæmorrhagic type complement was relatively abundant shortly before death. In 6 mild cases of scarlet fever no definite type of variation in the amount of complement occurred. In 10 more severe cases a diminution was observed during the pyretic period, with, in 6 of these, an increase during convalescence. In 4 cases of scarlatinal nephritis little or no complement was found. In 2 fatal [illegible] of complement was present [illegible] es the variations of comple- [illegible] o follow no definite rule. In [illegible]

Dr. **ADAM PATRICK** described some Anomalous Forms of the Enteric Bacillus. It was found during the investigation of bacilluria in men suffering from enteric fever that in 6 cases out of 17 the bacilli were not typhoid bacilli, but members of the typhoid-coli group, not previously described. B. coli occurred in none of the male cases, but was the organism present in 6 out of 7 cases of bacilluria in women with enteric fever. The atypical bacilli appeared in the urine rather after the time for typhoid bacilluria, persisted for quite a short time, and appeared to cause no constitutional disturbance. Though practically unaffected by anti-typhoid serum they were agglutinated in varying degrees by the serum of the patient from which each was isolated. Having been stored on agar slopes at about 6° C. they were found, on re-examination a year later, to have acquired greater fermentative powers with regard to certain sugars. This property has usually been described as developing by continued growth and subculture of an organism in a solution of the sugar; but with these bacilli the power, though afterwards increased by subculture, developed in many instances spontaneously.

Dr. J. P. KINLOCH discussed the Excretion of Salt and Nitrogen in the Nephritis of Scarlet Fever and Diphtheria.

Dr. W. M. ELLIOTT spoke of the Wassermann Reaction in Children from the Poorer Classes. His investigation had aimed at ascertaining whether the wasted and unhealthy condition so often found in such children had *a syphilitic basis. Of 43 children who were ill-*nourished, pale, flabby, and sometimes with sores about the mouth or nose 6 gave a positive and 2 a probable positive reaction, though only 3 of the 8 showed signs of syphilis. Of 45 children who were apparently in good health 3 gave a positive and 1 a probable positive reaction, only one of the 4 showing signs of syphilis. Of 42 children who were well nourished but had nasal or aural discharge 5 gave a positive and 1 a probable positive reaction, and none showed any sign of syphilis. The conclusion drawn was that the proportion of cases in which the impairment of health was due to syphilis was small, and yet sufficiently large to indicate the desirability of applying the Wassermann test to such children with a view to treatment.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Exhibition of Cases.—Fatal Anæmia.—Fatality from Salvarsan.

A MEETING of this section was held on Jan. 30th, Dr. J. F. O'CARROLL, the President, being in the chair.

The PRESIDENT showed a boy, aged 16, who up to June last was in good health. Going to school in that month he got several wettings and sat in his wet clothes. In a week he noticed stiffness on rising from his seat. After about three months feebleness in walking ensued. There was not much to be seen in the lower limbs. The shoulder girdle muscles were considerably shrunk, and the wrist and fingers were stiff, but could be extended, though with pain. Muscular failure of the palm, thumb, and little finger. No defect in sensation. Almost all movements could be performed, but with diminished power. Slight palatal paralysis. The case suggested juvenile dystrophy, but there was nothing positive about it. The slight palatal paresis pointed to the possibility of more than mere primary muscular trouble.

Dr. G. PEACOCKE showed a man suffering from Anterior Poliomyelitis. He had been affected at the age of 45. The lower limbs were affected, and showed the various phenomena characteristic of the disease when fully developed.—Dr. ELLA WEBB and Dr. F. C. PURSER discussed the case.

Dr. PEACOCKE read notes of a case of Fatal Anæmia in a man aged 43. In February, 1913, he suffered from pain after food, vomiting, weakness, and anæmia, which almost entirely disappeared under treatment, but after a time returned. He came under observation in the following August, with vomiting, absence of HCl in stomach contents, obstinate constipation, great muscular weakness, feeble action of heart, dark pigmentation of skin of abdomen and chest, and severe anæmia of a secondary type. He gradually became weaker, and died on Dec. 2nd. Temperature was irregular, but never exceeded 100° F. No abdominal tumour; abdominal walls markedly rigid. Heart and lungs normal. Post-mortem examination revealed no evidence of disease. In the absence of malignant or adrenal disease, he asked, was this a case of pernicious anæmia?—Dr. G. E. NESBITT in view of the marked pigmentation would have expected to find Addison's disease.

Dr. NESBITT reported a fatality after 0·4 grm. salvarsan intravenously in a poorly developed man aged 25, the subject of syphilis, either congenital or acquired early in life. The injection was followed by two rigors, with symptoms of collapse, death ensuing in 25 hours. In the absence of signs of arsenical poisoning or other apparent cause of death, the theory of excessive liberation of toxin was advanced.—Dr. H. C. EARL, showing the pathological specimens, said the liver contained numerous gummata, large and small. Sections were shown under the microscope. The epiglottic mucous membrane was greatly thickened, but not ulcerated. The kidneys appeared normal, but much congested. The third, fourth, and fifth cervical vertebræ were necrosed. The laminæ were removed and the cord and dura mater seemed unaffected. The heart was healthy. The brain was not obtained.—Dr. G. E. P. MELDON said at the Lock Hospital a good number of cases were treated with salvarsan, many of the patients being in a shaky condition. The first point to attend to was thoroughly to clear *out the alimentary canal, otherwise the reaction would be* very much greater. In a doubtful case he thought it best first to put the patient on mercury and iodide, to destroy as many spirochætæ as possible, and thus lessen the reaction. In this case it was rather soon to expect arsenic poisoning; it must have been some vital process.—Dr. LILIENSTEIN (Germany) recalled the case of a patient aged 52, who died an hour after an injection of salvarsan. The patient showed evidence of marked arterio-sclerosis. Another patient developed complete parapleg after salvarsan and died from pneumonia.—Dr. W. D. O'KEL and Dr. HENRY MOORE discussed the case.—Dr. NESBITT, replying, was glad that in the opinion of the members blam did not attach to him for the administration of the drug this case. There was no loss of consciousness, paralysis, anything of that sort. There was no arterio-sclerosis.

Dr. LILIENSTEIN demonstrated to the section his Apparat for Producing Phlebostasis, and detailed its uses in cardia disease.

LEEDS AND WEST RIDING MEDICO-CHIRURGICA SOCIETY.—A meeting of this society was held on Jan. 30th Dr. T. Wardrop Griffith, the President, being in the chai —A discussion on Glycosuria was opened in a paper by Dr W. Hale White.[1]—Dr. W. H. Maxwell Telling stated tha the most important part of the problem of glycosuria was th treatment of the diabetic, for almost every glycosuria was a actual or potential diabetic. The present imperfect stat of our knowledge made this treatment incomplete an unsatisfactory, but he pointed out that one of the cause which contributed largely to this was the amount o time and trouble, and incidentally expense, involve in modern treatment. It was realised that there was n out and dried routine for these cases, but that each cas was a law unto himself. The most careful analyses an chemical investigations were required before the nitrogenou equilibrium and carbohydrate tolerance were determined and only then would a satisfactory diet scheme be formu lated.—Dr. P. J. Cammidge emphasised the importance o realising that glycosuria was a symptom due to a variety o causes and not a disease. The associated conditions varie therefore in different cases, and each case must be con sidered separately. In a majority of instances it was no possible to determine with certainty the underlying patho logical lesion, so that the treatment resolved itself int a question of how best to balance the food-supply agains the defective powers of metabolism of the particula patient. Most medical men in treating a case of glycos uria confined their attention too much to the presence o sugar in the urine and neglected other considerations which were equally, and in some instances more, important. An attempt should always be made to render the urine sugar-free, but it was even more essential that the patient should be put in nitrogenous equilibrium. So long as more nitrogen was being passed in the excreta than was taken in the food, *the patient could not improve*, even if his urine was free from sugar. The highly nitrogenous diet often *given* to diabetics was a relic of a past age, and certainly did a great deal of harm in many instances. As much care should be taken in determining the optimum protein intake as to the quantitative regulation of the carbohydrates of the diet. In both instances the problem could only be attacked satisfactorily by quantitative methods, by balancing the results of analysis of 24-hour collections of the urine against the nitrogen and sugar content of a series of test diet. In some cases it would be found that the tolerance of the patient for a particular kind or form of carbohydrate was much greater than for others, and that by administering this under suitable conditions a glycosuria which otherwise resisted treatment might be made to disappear. This was particularly the case when, as happened occasionally, the persistent sugar was levulose. It was obvious that the less the extent of the disturbances of metabolism the more readily would the conditions be controlled, and the easier would it be to adjust the diet so as to compensate for the defects that were present. The earlier treatment could be commenced the more satisfactory would be the result. Every case of glycosuria was a potential diabetic, and it was therefore unfair to a patient, no matter how slight an amount of sugar he might be passing in the urine, to treat it as a matter of little importance which could be dealt with by a rule-of-thumb method.—Dr. J. Le F. C. Burrow pointed out a few experimental facts with regard to the influence of ductless glands on diabetes.—The President, Dr. T. Churton, Mr. A. L. Whitehead, Dr. S. Samuel, and Dr. A. G. Barrs also took part in the discussion. —Dr. Carlton Oldfield showed two specimens of Dermoid Tumour which obstructed labour by blocking the pelvic cavity. 1. Primipara; very ill; uterus in tetanic contraction; child *in extremis*. Delivery by Cæsarean section. Tumour removed during puerperium. 2. Multipara; general condition of mother and child good. Removed tumour by abdomen after first withdrawing uterus through long incision. Labour progressed during suturing wound so that head was found in perineum at end of operation. Both mothers did well, and left the hospital with living children. —Dr. R. A. Veale showed a case of Wasting of the Peroneal and Quadriceps Muscles following a blow on the leg.—Mr. G. Constable Hayes showed: 1. A case with a history of Ulceration of the Soft Palate and Pharynx on and off for four years, during the whole of which period the patient was under mercury and potassium iodide. When seen three weeks ago the whole of the soft palate, and extending slightly on to the hard palate and pharynx, was one large granulomatous mass with a deep central fissure. After two injections of 0·6 grm. of salvarsan, at a week's interval, the whole mass was reduced to about half its original size. The pathological report (by Dr. M. J. Stewart) was as follows: "Wassermann reaction positive. The palatal lesion is essentially a plasma-cell infiltration of the subepithelial tissues, and these cells are present in enormous numbers. The epithelium itself, though thinned, is still intact, and there is no evidence either of tubercle or of new growth." 2. A case with no definite history of syphilis. Wassermann reaction strongly positive. Patient complained of complete nasal obstruction for 14 months. On examination there was marked hard thickening of the skin over the whole nose and also of the mucous membrane inside the anterior half of the nose. 0·6 grm. of salvarsan, given twice at weekly intervals, was followed by marked reduction of the swelling.—Dr. C. W. Vining showed a case of an Enlarged Spleen in a boy, with a negative blood picture and a trace of bile in the urine. The diagnosis lay between (1) splenic anæmia, (2) congenital lues, and (3) splenomegalic cirrhosis. The latter diagnosis was favoured owing to the presence of bile in the urine.—Mr. J. F. Dobson showed a case of Osteitis Deformans. The disease originated six years ago in an enlargement of the left tibia. Enlargements of other bones soon followed, and at the present time both tibiæ, both femora, the clavicle, sternum, spine, and cranial bones were extensively diseased. The patient had lost 4 st. in weight. There was no sign of the development of sarcoma.

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[1] THE LANCET, Feb. 7th, 1914, p. 367.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this institution was held on Feb. 5th.—Mr. C. A. Adair Dighton read a short paper on Submucous Resection of the Nasal Septum. He considered that the operation should not be performed before the fifteenth to seventeenth year, nor where there was any evidence of active syphilis; he did not believe in a general anæsthetic, and he emphasised the fact that it was deviation in the upper portion of the septum which was serious.—Dr. H. Armstrong and Dr. J. Hay referred to the danger of employing adrenalin when the patient was under chloroform.—Mr. Arthur J. Evans described the removal of a sequestrum and involucrum from the upper arm of a child; within six months there was full functional recovery; no bone grafts were needed and no foreign bodies induced.—Mr. R. W. Murray referred to the tendency to suppurative pericarditis in cases of osteomyelitis. He related a case in which he had evacuated the pus from the pericardium, after which the boy recovered.—Mr. K. W. Monsarratt gave it as his opinion that as a general rule the diaphysis should not be removed.—Dr. McMurray emphasised the importance of the marrow when bone was implanted.—Mr. Simpson spoke and Mr. Evans replied.—Dr. Armstrong, in a short paper on Some Clinical Manifestations of Congenital Syphilis, introduced the subject with an expression of opinion that the type of the disease as now seen was decreasing in the severity of the symptoms, but that syphilitic disease of the central nervous system was increasing in frequency. The fulminating case of the infant who practically rotted away despite energetic treatment was becoming a rarity. Recent Wassermann statistics in children were reviewed, and owing to the complication and expense in blood, time, and money of this reaction the need of the perfection of Noguchi's "luetin" cuti-reaction emphasised. On the clinical side Dr. Armstrong did not regard "marasmus" in which there were no other signs of inherited lues as syphilitic in the true sense, though he thought there were probably cases in which marasmus resulted from the toxic effect of maternal syphilis upon the ovum without actual infection. Such cases would not respond to antisyphilitic treatment. On the question of the part played in the production of congenital deformities by syphilis the opinion was expressed, backed by clinical and Wassermann evidence, that though it was an undoubted factor in a number of cases it was not so in the majority, which had some other origin. Two rashes—pemphigus neonatorum and eczema seborrhoicum—sometimes mistaken for syphilitic lesions, were described and the diagnosis elucidated. Photographs of a case of "cauliflower" tumour of the anus, a papillomatous mass of the size of a large orange in a boy of 9, and of another patient a child of 8 months, with gangrene of the foot, diagnosed as a combination of Raynaud's disease and congenital syphilis, were thrown on the screen, and a case of paroxysmal hæmoglobinuria in a boy of 3 related. Other manifestations were touched on, and Dr. Armstrong concluded his paper with a review of the effects of inherited syphilis upon the nervous system. Syphilitic meningitis in children gave a clinical picture resembling that of the posterior basis of meningococcal type. The treatment differing so greatly lumbar puncture was essential early for diagnosis. Prognosis was fairly good, but blindness, deafness, and mental impairment were liable to follow permanently. Hemiplegia was often preceded by convulsions and frequently recurrent, the prognosis of functional recovery decreasing after each attack. Illustrative cases were quoted, including one of the fatal termination of untreated cerebral syphilis, death ensuing upon convulsions after the patient, a boy of 11, whose first symptoms dated from a hemiplegia at 7, had gradually become diplegic with extreme spasticity and imbecile.—The paper was fully discussed by Dr. E. W. Hope, Dr. F. H. Barendt, Professor J. M. Beattie, Dr. A. G. Gullan, Dr. C. J. Macalister, Mr. Murray, Dr. R. W. McKenna, Dr. W. B. Warrington, and Dr. Wilson.—Dr. Armstrong replied.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 4th, Dr. Donald, the President, being in the chair.—Mr. William Thorburn gave an address on "The Present Position of Cerebral Surgery." He began by stating that he intended to confine his remarks to the surgery of epilepsy and new growths of the brain—a branch of surgery that until quite recently did not admit of scientific review owing to the lack of statistics that covered any large numbers of cases. During the past year this absence of statistical basis had, as regards tumours, been filled in from various clinics, and in particular from the Queen-square Hospital. From his own statistics the number of successful cases of the surgical treatment of epilepsy worked out in round numbers at 25 per cent. The most satisfactory type of case was the traumatic, and the more definite the history of trauma the greater was the probability of cure. Idiopathic epilepsy was an extremely unsatisfactory condition for surgical treatment. The operation for epilepsy was a decompression necessarily and involved a craniectomy in all cases. Bony spiculæ when present were removed from the cortex; such cysts as were found were evacuated and their walls destroyed. These abnormalities, however, were not common. Adhesions between the brain and the dura, or between the dura and the cranium, were common; these were separated and strips of Cargile membrane interposed. Damaged cortex when present was removed. The bony defect in the cranium never caused any difficulty in the after-course of the case. The results obtained in Manchester, at Queen-square, and in von Eiselsberg's clinic were compared as regards the operative treatment of cerebral tumours. These results were by no means so depressing as they appeared at first sight from the published statistics. It must be remembered that many of these cases were moribund at the time of operation. In most the tumour was malignant, and anything in the nature of a radical removal was quite out of the question. The results of such operations should be judged only in comparison with the probable result in the case of a malignant tumour of the breast, in which the only course admissible was excision of the tumour nodule itself. An operation for a cerebral tumour should be approached from the standpoint of a decompression only, the growth being removed only when it was superficial and visible. Anything in the nature of exploring the brain substance should not be performed. It should be quite clearly understood that a complete cure could only be vicariously obtained. What was aimed at was the prolongation of life for a time, the lessening of the pain, and the relief of blindness. Judged from this standpoint, the operative treatment of cerebral tumours was rational and satisfactory. Exposure of the cerebral cortex was a procedure associated with little, if any, danger. Laceration of the brain substance, as must necessarily occur if the growth was sought for, was a dangerous and in most cases a useless proceeding. Operations for cerebellar tumours were in most cases unsatisfactory. In the case of cerebello-pontine growths there was a marked tendency, as the tumour developed, for the brain stem to become twisted, and this twisting being gradual was tolerated up to a certain point; removal of the growth or even simple decompression if performed in the usual manner resulted in the sudden release of this strain, a rapid "untwisting" of the brain stem, and, as a rule, rapid death from œdema or hæmorrhage into the bulb. In such growths the performance of decompression should be as gradual as possible, the operation being performed in three stages at least. At the close of his address Mr. Thorburn showed many specimens illustrative of his remarks.

OCKENDEN CONVALESCENT HOME.—At the annual meeting of the subscribers to the Ockenden Convalescent Home the report stated that 218 patients had been admitted during 1913, the average daily number of occupied beds was 19·2, and the average stay of each patient 31·20 days. The income was £762 and the expenditure amounted to £748.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, CITY-ROAD, E.C.—Sir Richard Biddulph Martin presided at the annual general meeting of this charity on Feb. 12th, when Mr. F. Swinford Edwards moved that the change of rule passed by the board on July 15th, 1913, "that a representative of the active surgical staff should in future have a place on the committee of management," be adopted as it was a most desirable reform. Such a member of the active staff knew by experience the daily surgical exigencies of the place. The resolution was carried without dissent. The report, which was adopted, made reference to the inevitable difficulties incidental to appealing for funds owing to the nature of the hospital. It also showed that during the past year the number of in-patients had been 621. The number of out-patients was 1854, who made a total of 6324 attendances.

Reviews and Notices of Books.

Surgical Experiences in South Africa, 1899-1900.

Being mainly a Clinical Study of the Nature and Effects of Injuries produced by Bullets of Small Calibre. By GEORGE HENRY MAKINS, C.B., F.R.C.S. Eng., Senior Surgeon to St. Thomas's Hospital; Vice-President of the Royal College of Surgeons of England, &c. Second edition. Illustrated. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 504. Price 10s. 6d. net.

THE first edition of this well-known work was published in 1901.[1] For some years it has been out of print, and its reappearance will be welcomed. It is practically a reprint of the former issue, except for the continuation of the histories of some of the cases, especially those of aneurysm. In bringing this volume to the notice of our readers we need say little by way of introduction; its extremely practical character, based entirely on experience, the admirable clearness with which it is written, and the large number of illustrations (28 full-page plates and 105 figures in the text) constitute its value.

There is no need to revive the old controversy that raged as to the efficiency of military medical administration in the South African war; accusations often retain their vitality long after they have been satisfactorily refuted; but the testimony of the leaders of the profession who took part in that war has been practically unanimous as to the efficiency of the medical aid rendered, taking the campaign as a whole. Mr. Makins speaks for the excellence of the organisation of the General Hospitals and the success of their surgical results; he recognises the immense strain that was thrown on the medical service of the army during the campaign, and considers that "the medical profession may well be proud of the efforts made by its military representatives to do the best possible work under the circumstances." The aseptic nature of wounds by small bullets of high velocity (due to renewal of the bullet's surface by passage through the barrel and to the heat to which it has been subjected), and, on the other hand, the invariable suppuration of shell wounds (with the exception of clean leaden shrapnel tracks), are two important generalisations now universally acknowledged. Gunshot wounds of joints, formerly causing the greatest anxiety to the surgeon, are now little more to be dreaded than uncomplicated wounds of the soft parts alone, "owing to the harmless character of the projectile [the small calibre bullet] as a possible infecting agent."

Radium: its Physics and Therapeutics.

By DAWSON F. D. TURNER, M.D. Edin., F.R.C.P. Edin., Medical Officer in charge of the Radium Department, Edinburgh Royal Infirmary. Second edition. London: Baillière, Tindall, and Cox. 1914. Pp. 170. Price 5s. net.

IT was our pleasure to review the first edition of this handy volume (THE LANCET, April 1st, 1911), and that a second edition of a work on such a highly specialised subject should so soon be called for is evidence of the popularity it has been accorded.

In the present edition we have all the good points of the first one, and a lot of new matter is added so as to keep in step with the latest ideas on the physical properties and applications of radium in the treatment of disease. As an example, a new chapter has been added on the use of the emanation of radium and thorium compounds; also the section dealing with the treatment of malignant disease has been considerably extended, and the details of many new cases have been added. While some progress has been made in this direction, especially in localised lesions, the fact still remains that we are not much further forward as regards inoperable cases.

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[1] THE LANCET, June 1st, 1901, p. 1544.

This is a valuable handbook on radium, and is to be recommended to those who wish to keep in touch with present ideas.

The Principles and Practice of Gynæcology for Students and Practitioners.

By E. C. DUDLEY, A.M., M.D., Professor of Gynæcology, North-Western University Medical School. Sixth revised edition. Illustrated. London: Henry Kimpton. 1913. Pp. 795. Price 25*s.* net.

SOME five years have elapsed since the last edition of this book appeared. A large part of it has been rewritten, more particularly the chapters dealing with general principles, inflammation, tumours, and traumatisms. The subjects are arranged in pathological and etiological sequence, so that, for example, infections and inflammations are brought together, and tumours are treated in one part, traumatism in another, and displacements in another.

It is always interesting to note what view any author takes of such new theories or methods of treatment as have appeared since the last edition of his book was published. In this edition we find that Professor Dudley has not seen any reason to change his views on the merits of the extended abdominal operation in the treatment of operable cancer of the cervix. He is still inclined to regard ignihysterectomy—a combined vaginal and abdominal hysterectomy carried out mainly by the cautery—as a better operation than that commonly known by the name of Wertheim. His readers must, however, bear in mind that some surgeons at any rate make a great use of the cautery knife in performing the extended abdominal operation, and no doubt it presents many advantages. At the same time it is interesting to note that the author is not convinced of the greater advantages presented by Wertheim's operation. Professor Dudley is essentially conservative in his opinions. For example, in mentioning the use of X rays in the treatment of cases of fibromyomata of the uterus he recalls the lessons of the use of electrolysis in such cases, and is evidently very incredulous of the results said to have been obtained; and yet every day brings fresh evidence of the great value that this method presents in the treatment of fibroid tumours of the uterus. It is surprising to find in a book of this scope the subject of ovarian pregnancy dismissed in one line, as well as so inadequate an account of the pathological changes which occur in the tube in connexion with tubal pregnancy.

The book has many good features, and is strongest in its descriptions of the various forms of plastic operations upon the pelvic organs; indeed, in this respect it would be difficult to surpass it. At the same time, in our opinion, an undue amount of space is devoted to these and kindred subjects to the detriment of the rest of the work.

A Handbook of Hygiene.

By A. M. DAVIES, M.R.C.S. Eng., L.S.A., D.P.H. Camb., Lieutenant-Colonel, R.A.M.C. (retired), late Professor of Hygiene, Royal Army Medical College. Fourth edition, revised and enlarged by A. M. DAVIES and C. H. MELVILLE, M.B., C.M. Edin., D.P.H. R.C.P.S. Lond., Brevet-Colonel, R.A.M.C., late Professor of Hygiene, Royal Army Medical College. London: Charles Griffin and Co., Limited. 1913. Pp. 718. Price 10*s.* 6*d.* net.

HYGIENE nowadays includes such a number of subjects that a book with that title invariably means an inconveniently large volume. When, for example, we consider that an adequate treatment of the subject must include, as does the volume before us, discussions upon air and ventilation, water and water-supply, food and dieting, the removal and disposal of sewage, clothing, habitations, personal hygiene, soils and sites, climate and meteorology, the causation and prevention of disease, and disinfection, we realise that considerable difficulty must be found in providing room for the materials within the bounds of a "handbook." Each of these questions well may claim a separate work to itself, but apart from those who want special monographs there is a large *clientèle* requiring the presentation of broad essentials in one volume. In reality, the departmental developments of hygienic questions have been so great as to render impossible an account of the subject complete in a single volume. That is our one criticism of this excellent compilation.

As new editions of standard works are brought out we find that the writers are compelled to omit those former special chapters which dealt with technical details. It would be futile, for instance, to attempt to include now even a *résumé* of the bacteriological refinements which are day by day added to the armamentarium of the bacteriologist in connexion with his methods of examination of foods, water-supplies, and sewage effluents. Nor similarly can it be pretended that a useful account can be given of the latest developments of analytical work applied to the analysis of air, water, and food, without trespassing upon much space which is better occupied with general considerations. These are special departments the importance of which in their bearing upon sanitary science can be instructively indicated, but description of the technique is left to the special volumes. Such appears to us to be the lines upon which a modern text-book on hygiene should be founded, and we welcome the fourth edition of this work because, in our view, it fulfils this definition. Considerations of space have rendered necessary the suppression of the sections on the "Analysis of Air, Water, Food, &c.," and in many other directions prudent omissions have been made. Yet there is retained a most instructive account of general principles written with an observance of modern advances.

The sincerity of the writer's aim, declared in the first edition to be "to digest the information into as small a compass as seemed advisable without sacrificing clearness, and at the same time omit nothing of real importance," receives proof in the care which he and his coadjutor have bestowed upon the revision of the new edition, and in the judicial selection of essential materials.

In regard to the reference to the work of THE LANCET Commission upon disinfectants in the chapter on Disinfection, we should point out that Professor G. Sims Woodhead was responsible for the bacteriological portion of the inquiry only, and therefore the statement is not correct that (p. 679) "Woodhead also made some chemical investigations as to the actual content in phenol or phenoloids of the different patent preparations on the market, and found that it was possible to arrive at some idea of the disinfectant power of such compounds by these means." As stated in the report, the chemical part of the inquiry was undertaken by Mr. S. A. Vasey, of THE LANCET laboratory, and Mr. J. E. Purvis, of the University Chemical Laboratory, Cambridge.

Spätpsychosen Katatoner Art.

Eine Klinische Studie von Dr. med. Maurycy Urstein, Warsaw. Berlin and Vienna: Urban und Schwarzenberg. 1913. Pp. 440. Price, paper, 16 marks; bound, 18 marks.

In this monograph Dr. Urstein has described with minutest detail the cases of some 40 patients suffering from varieties of psychosis developing after the age of 40. He finds certain resemblances in all psychoses which make their appearance in the later years of life, whatever be the underlying pathological process or the actual nature of the disease. He directs attention, however, mainly to the group in which the psychosis approximates to the type of catatonia. There are chapters on the influence of the climacteric on the psyche, on the relations between the time of life and the symptomatological type of the psychosis with which an individual may be afflicted, and on the physiology and psychology of old age.

The book is of value chiefly from the documentary viewpoint; the cases are elaborated with a wealth of clinical description that could not be improved on.

Mind and Health: with an Examination of Some Systems of Divine Healing.

By Edward E. Weaver, Ph.D., sometime Fellow in Clark University. With an Introduction by G. Stanley Hall, Ph.D., LL.D., President of Clark University. New York: The Macmillan Company. 1913. Pp. 500. Price 8*s*. 6*d*. net.

Of making of books on psychotherapy there is no end. It is a legitimate assumption that there is a demand for them, but whether they are intended for the medical profession or for the lay reader, intelligent or otherwise, is not always easy to determine. The terminology of not a few cannot be properly understood, in our opinion, by any but the professed psychologist or physician, yet it not infrequently happens that such books also contain matter couched in language so popular that the impression abides with the medical reader that the volume is not for him. In the preface to the present work we read that "it is especially offered to those, on the one hand, who maintain an exclusive religious healing, and to those, on the other hand, who disdain religious healing of every kind."

The standpoint of the book is frankly the Christian standpoint; and the general outlook is that the time has come for minister of religion, physician, psychotherapist, faith healer, and social worker to put away suspicions of each other's work, to join efforts, and to establish that therapy which will best promote the highest efficiency of the worker for the Kingdom of God. We fully appreciate the reverent spirit that pervades the book, the tolerant atmosphere in which the reader finds himself, and we acknowledge the truth and practical importance of many of its main principles. But with the author's plea for a religious psychotherapy we do not find ourselves in complete agreement, and no coöperation such as the author foreshadows can ever be possible till a common working basis is reached. How that basis can be reached when religious tenets and opinions are as widely divergent to-day as ever they were it is difficult to see. Moreover, while we do not hold that science and religion are inherently antagonistic, a rational psychotherapy must be a scientific psychotherapy, and the tendency of the religious psychotherapist, either from ignorance of medicine or from his particular habit of interpretation, to claim for his religion results which are capable of other explanations is not calculated to further that coöperation for which the author hopes. No physician but rejoices when cures are effected, by whatever method attained; yet the risk of mistake in diagnosis is fully appreciated only by the physician, and we strongly insist that no form of treatment can relegate the importance of complete and painstaking medical examination to the background.

The present volume is characteristic of a certain type of book-making that lends itself to criticism. It is simply packed full of quotations, often pages at a time, from all sorts of writers, mostly American, and it may be said that many of these quotations are noteworthy both for the wordiness and superficiality of thought which they reveal. The author's own contributions to the book are not always couched in intelligible phraseology; for an instance, the following passage, one of many, may be quoted: "The non-personal, non-synthetised experience, that yet achieves some registry in the nervous system, which under special conditions becomes observable as furnishing mental nourishment to a subconscious form of assimilation, is thus the dissociated experience; and the consequences to the intelligence in which such states habitually occur and multiply inevitably affect the entire personal integrity of consciousness." The book contains many loosely constructed sentences cast in language that is nebulous to a degree, effectively concealing what thought may lie behind; the frequent employment of terms in other than their accepted usage, so characteristic of a certain number of American writers, is one against which a protest must again be entered.

Practical Guide to Diseases of the Throat, Nose, and Ear, for Senior Students and Junior Practitioners.

By William Lamb, M.D. Edin. Third edition. London: Baillière, Tindall, and Cox. 1913. Pp. 352. Price 7*s*. 6*d*. net.

There are many senior students and junior practitioners to whom this new edition of Dr. William Lamb's "Practical Guide to Diseases of the Throat, Nose, and Ear" will appeal, because the author has spared no pains to make the book worthy of its title—a really helpful "guide" to the beginner in the study of these diseases. Whilst the original character of the manual has not been changed, the subject matter has been revised and brought up to date as far as that is possible in an elementary work on a very progressive special department of practice. Several short sections have been added on various practical points, such as oral sepsis, which is still very generally left out of account as a possible cause of disease. Attention is drawn to the risks at times attending the tonsil and adenoid operation. The relative merits of tonsillectomy and tonsillotomy are discussed. To the part dealing with diseases of the ear a section has been added on the danger signs in ear disease, the importance of which it would be difficult to overstate. Whilst adding new matter the author has not overloaded his pages with information which the student can easily find in any work of reference. The pages have been given up to practical matters, and more particularly to difficulties which the beginner is sure to encounter, and which sometimes receive but scanty notice in systematic works.

LIBRARY TABLE.

Burdett's Hospitals and Charities: the Year Book of Philanthropy and Hospital Annual. London: The Scientific Press, Limited. 1914. Pp. 1055. Price 10*s.* 6*d.*—For many years an effort has been made by Sir Henry Burdett to expedite the date of publication and issue this book to his subscribers, so as to bring it out not later than the first week in February of each year. Hitherto this has been found to be impossible of accomplishment, but with the celebration of the silver jubilee of the publication the editor has succeeded in attaining his aim. Only those who have any experience in compiling publications, the information for which is obtained by letters and schedules from a large number of sources, can appreciate the difficulties with which the editor of a publication like Burdett's Charities has to contend, even though he receives, as no doubt has been the experience here, the hearty coöperation of the persons to whom he applies for assistance. We congratulate Sir Henry Burdett, therefore, on having at last attained the ideal which he has so consistently aimed at. We regret, however, to note that in his preface he tells us that he feels, by reason of his age, that the time has now come when he must relinquish his task, and he expresses the hope that some competent person having a keen interest in the voluntary system of hospitals will come forward and coöperate in the compilation of future volumes, although no remuneration attaches to the office. The work is now so well known and widely used that it is almost unnecessary to describe it beyond quoting the title-page, which describes the book as containing a review of the position and requirements, and chapters on the management, revenue and cost of the charities, an exhaustive record of hospital work for the year, and as a trustworthy guide to British, American, and colonial hospitals and asylums, medical schools and colleges, nursing and convalescent institutions, consumption sanatoriums, religious and benevolent institutions and dispensaries. In the current volume will be found the latest figures from the audited statement of accounts of some 6000 separate institutions for the period ending Dec. 31st, 1912, and there are special chapters dealing with almost every phase of medicine and nursing from the point of view of charity. It is a review of all matters affecting the progress and work of organised charities of every description throughout the English-speaking world, and the complete 25 volumes constitute an encyclopædia of the history and progressive development of voluntary medical charity.

Gould and Pyle's Pocket Cyclopædia of Medicine and Surgery. Second edition. Revised, enlarged, and edited by R. J. E. Scott, M.A., B.C.L., M.D. New York. London: H. K. Lewis. 1913. Pp. 732. Price 5*s.* net.—This little book aims to fulfil in regard to the subject matter of general medicine the purpose of rapid reference that the corresponding medical dictionaries fulfil in regard to medical nomenclature. As Gould and Pyle's "Cyclopædia of Practical Medicine," on which the first edition of this work was based, has been recently edited and brought up to date by Dr. Scott, it was deemed advisable to entrust to the same editor the revision of the present work. While there is much that is of value and convenience in the book, we have been unable to find any references under coccus, micrococcus or their specific names, to pneumococcus, gonococcus, staphylococcus, streptococcus, diplococcus, or the causative bacteria or bacilli of various diseases, nor are they mentioned, though pictures of staphylococci, streptococci, and diplococci are given, under bacteriology. The term plasmodium malariæ is not to be found, even under malaria. Trypanosoma and trypanosomiasis and uncinariasis are not given, and even under hookworm disease the microorganism is referred to only as the hookworm, uncinaria not being named. Ankylostoma, however, has a place. Treponema and spirochæte also find no place, except under syphilis. Stegomyia is not named, even under yellow fever, nor are tsetsefly and anopheles. Of diseases, kala-azar and tick fever do not appear, and we have found no reference whatever to bacterio-therapy, vaccine-therapy, inoculation therapy, or the opsonic index, to radium or radium therapy, to the cardiograph, hæmatometer, or sphygmomanometer, though catheter and cautery find a place. Under thiosinamine the most useful function claimed for it by some of causing resorption of fibrotic deposits has no mention. There are serviceable tables of arteries, bones, muscles, nerves, tumours, and urinary sediments, to which one of operations would be a sound addition. From the partial list of modern subjects with regard to which we have looked in vain for a reference, we feel bound to consider that, useful as the book might be made, it can hardly be regarded as up to date. It strikes us as a valuable idea inadequately carried out.

Hysterie: Zur Frage über die Entstehung Hysterischer Symptome. By Dr. J. M. Raimist, Leiter der Nervenabteilung des judischen Hospitals in Odessa. Berlin: S. Karger. 1913. Pp. 101. Price 3.50 marks. —In this brochure Dr. Raimist is concerned with an endeavour to establish a relationship between the type of hysterical symptoms in any given case and the nature of the exciting factors precipitating the hysteria. In many instances, the clinical details of which are given, he can demonstrate a logical, intellectual relation of cause and effect between the trauma, using the word in its widest sense, and the symptoms. In others, he can trace no such connexion, and is forced to conclude that the exteriorisation of an emotional shock may follow lines that could not be foreseen; and conversely, that from the type of symptoms the original psychical lesion cannot always be determined. The author does well to draw attention to the as yet incompletely solved question of the forms which the expression of a psychical trauma may assume.

Research Studies in Psoriasis. Reprinted from the *Journal of Cutaneous Diseases, including Syphilis,* of October and November, 1913. By Jay F. Schamberg, M.D., John A. Kolmer, M.D., A. I. Ringer, M.D., and G. W. Raiziss, Ph.D. New York: Rebman Company. Pp. 140.—These pages record an exhaustive study of the nature of psoriasis.

New Inventions.

A NEW DRAINAGE-TUBE INTRODUCER.

THE drainage-tube introducer, here illustrated in its two forms, is referred to in my paper read on Feb. 10th before the Surgical Section of the Royal Society of Medicine, entitled "On the Most Efficient Method of Drainage in Septic Peritonitis."[1] It is intended for rectal, vaginal, or loin drainage. The drainage-tube introducer is in the shape of a well-known form of periosteal elevator, with one end slightly curved, terminating in a blunt point, for perforation from within out of the bowel, vaginal posterior cul-de-sac, or the loins, in the case of the routine subphrenic drainage recommended in all cases of septic peritonitis, and as a preventive of this in immediate suture of gastric or duodenal ulcers, &c. The other extremity of the instrument is bulbous, with a depression between the bulb and stem. A good-sized drainage-tube, No. 16, red rubber tubing, of ½ inch external bore and 5/16 inch internal bore, corresponding with the cylindrical shank of the instrument (but which can be less than this if desired), is fitted over the bulbous end, which has a thread on it to prevent the tube slipping off. The free edge of the tubing lies in the depression beyond the bulb, so that no obstruction or resistance is perceived in introducing it from within out through any structure — e.g., the bowel, vagina, or abdominal wall. For further details of its use the reader is referred to the text of the riginal paper when published in the *Transactions of the Royal Society of Medicine.*

FIG. 1.

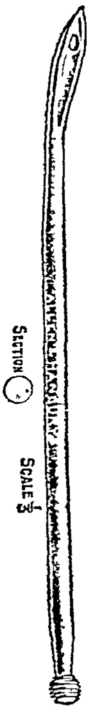
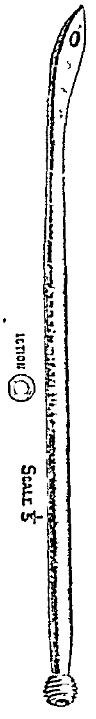


FIG. 2.

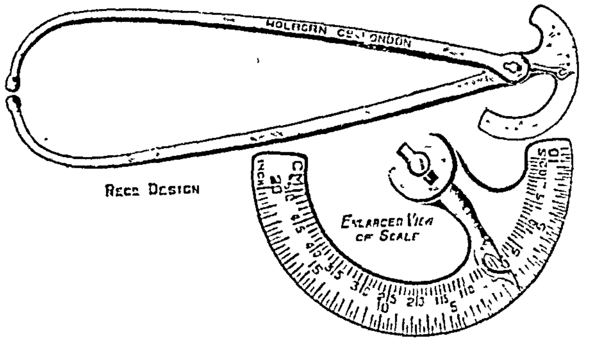


The drainage-tube introducer, which has been very tisfactorily manufactured according to my designs by Messrs. Allen and Hanburys, Wigmore-street, London, W., s 9¾ inches long, the diameter of the cylindrical shaft being ½ inch. Fig. 1 represents the ordinary form of the nstrument. Fig. 2 is another form, with hollow shank for ccessory employment in emergencies as an irrigator. In both forms of instrument there is a large eyelet, permitting of its use as a serviceable pedicle-needle, if desired. From ts general form, the drainage-tube introducer can also be employed as a periosteal elevator. The inconvenience and expense of a multiplicity of instruments has thus, to some extent, been met in this addition to the surgeon's armamentarium by giving to the new weapon multifarious uses.

Harley-street, W. HENRY CURTIS, F.R.C.S. Eng.

AN IMPROVED PELVIMETER.

THERE is much valuable information to be gained in the regular use of a good pelvimeter in obstetrical practice. Certain complications of labour may be foreseen by employing his diagnostic aid, and be dealt with intelligently. The French type of pelvimeter has these advantages over other orms: simplicity, lightness, compactness, and ease of manipulation. It is adaptable to all the external measurements in common use, and the principal internal ones also. Dr. T. M. Eden has strongly recommended it. However, its usefulness has been limited by the unfortunate lack of agreement regarding a standard scale, some obstetricians using the English, others the French system. In order to extend the scope of this pelvimeter I have modified and improved it so as to include both metric and English scales, and have added to its simplicity by the removal of several ornamental grooves. The complete instrument now consists of but two parts which are readily cleaned. The scales are very easy to read. The apparatus needs but a single investigator. A new and important use has been included and should be of great service to any person collecting a series of obstetrical measurements from many sources, and wishing to put all of them in the same scale; for by simply placing the indicator at the figure given the conversion into the other scale may at once be read off without appreciable effort or calculation. The recent excellent article by Dr. Daniel Dougal in the November issue of the *Journal of Obstetrics and Gynæcology* further emphasises the value of the information gained by the routine use of the pelvimeter in obstetrical cases. The initial cost of the instrument I have designed is small, and I hope many will be induced to use this instrument of precision, and so learn ascertainable facts, thus placing obstetrics a degree nearer to being an exact science.



The instrument has been made to my designs by, and may be had from, The Holborn Surgical Instrument Company, 26, Thavies Inn, Holborn-circus, London, E.C.

Toronto, Canada. GORDON GROTE COPELAND, B.A., M.B.

OPENING OF THE CLINICAL LABORATORY, ADDENBROOKE'S HOSPITAL.—On Feb. 13th the new clinical laboratory, founded by Mrs. Bonnett in memory of her son, the late John Bonnett, was formally opened. This laboratory will be a valuable addition to the resources of the hospital, which up to the present time has been dependent on the university authorities, who have allowed the clinical investigation work of the hospital to be carried out in the medical schools. The proceedings began with a luncheon in the dining-hall of Downing College. The Master, Professor F. Howard Marsh, was in the chair, and about 50 members of the Cambridge Medical Society were present. The Master, in proposing the toast of Mrs. Bonnett's health and the memory of John Bonnett, referred to the long period of service John Bonnett had given to the hospital, to his estimable qualities, and to the generosity of his mother in building and endowing a clinical laboratory to keep his memory alive. Dr. Walter Malden responded on behalf of Mrs. Bonnett. An adjournment was then made to the laboratory, which is situated at the north end of the hospital. It consists on the ground floor of a cold storage mortuary with freezing plant, a post-mortem room, a mortuary chapel, and a waiting-room for friends. A doorway on the right cuts off the laboratory from the mortuary. The laboratory comprises a dark room for photography and spectroscope work, a chemical laboratory, and a room for sterilising and washing up. Upstairs there is a small storeroom, a room for histology, and a large bacteriological laboratory. Sir Clifford Allbutt, Regius Professor of Physic, in declaring the laboratory open, remarked that such institutions were a necessary part of a modern hospital, and related his early endeavours to get such a laboratory started. He dwelt on the necessity for a close connexion between pathological investigation and the clinical work in the wards, and the danger of the study of pathology becoming too academic if divorced from the wards. Professor Sims Woodhead, endorsing Sir Clifford Allbutt's remarks, emphasised the value of the addition to the resources of the hospital which had been provided by Mrs. Bonnett's generosity.

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[1] See summary on p. 533 of present issue.

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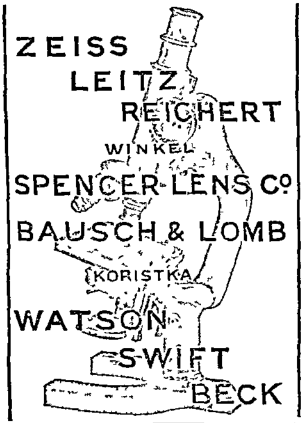

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DIRECTOR GENERAL, ARMY MEDICAL SERVICE.

[illegible]

TO ADVERTISERS.

The Manager begs to intimate that in order to meet, to some extent, the demand made by Advertisers for "position" pages—in which respect THE LANCET *will still continue to be deficient as compared with most weekly Journals—the position occupied by this and the following page has been created, and will be known as "Preceding Leader."*

Heavy types or heavy blocks will not be eligible for this position, nor can any border rules be used.

The price will be £12 net per page and pro rata, with a minimum space of one-eighth of a column (=1⅛ in., 15/-), and proceeding by one-eighths (the usual two columns to a page), and consequently there will not be any serial discount.

It will not be practicable to accept any conditions calling for space on either page in particular, or for any precise position on the page, and successive weekly insertions cannot be guaranteed.

laid down. As Mr. HEY GROVES says, "the most conservative surgeon would not allow a fractured patella with much displacement to go unsutured, nor would the most ardent advocate of operations suggest an open attack upon a subperiosteal fracture of the fibula without displacement." This example is given to show that in some cases operative interference has little risk and yields such admirable results that it must be employed; and that in other cases the results are so good without operative interference that such measures would be undreamt of. But this is not the only way in which the necessity of treating every case on its own merits can be indicated. It is perfectly easy to see that in some subjects an operation which is not entirely necessary had better be avoided for general reasons, and that at other times the accident may occur in an excellent subject for operation, but in an environment where the special treatment cannot be provided by a surgeon familiar with a difficult and anxious technique. There is no general answer to the question whether the non-operative or operative treatment of fractures is the better, but the valuable work that is being done will help us enormously to clear up our doubts. It must be borne in mind that it is not the cosmetic appearance of the bone, as shown by a skiagram, that really counts in the consideration of the question of the success of the treatment of a fracture, but the functional value of the limb afterwards; and the Roentgen rays have shown us clearly that perfect functional results may accompany the healing of a fracture where there is no small degree of anatomical deformity. Yet the more nearly the surgeon attains to a perfect anatomical result the more likely is the functional result to be perfect also; so that there can be no doubt that the surgeon should do his utmost to obtain as exact a reduction of the fragments as can be. When he is convinced that he cannot by other means replace the fragments the question of recourse to operative procedures arises. Undoubtedly different surgeons will judge differently as to the urgency of individual cases, but nearly all surgeons are now much more ready to operate in fractures than they were even a few years ago.

◆

Bertillonage.

M. ALPHONSE BERTILLON, the great worker in anthropometry, has died at the age of 61. He had been an invalid for many years, and some time ago underwent transfusion, for which his brother, Dr. JACQUES BERTILLON, the director of the Bureau of Sanitary Statistics of the city of Paris, furnished the blood. The beneficial result was, however, only temporary. ALPHONSE BERTILLON was a son of Dr. LOUIS ADOLPHE BERTILLON, one of the founders of the School and the Society of Anthropology at Paris. He began his career by researches in ethnography, his first book being entitled "L'Ethnographie Moderne des Races Sauvages." It was in relation to this that he worked out his accurate method of mensuration of the various parts of the human body and elaborated a mode of classification of these documents which gave rise to the establishment of the anthropometric records (*fiches*) of identity of criminals, a department created at the prefecture of police in Paris in 1880. M. BERTILLON never ceased to add to the completeness of his method by the addition of new signs, and particularly by the adoption of the examination of finger prints, a method borrowed from the Chinese, and elaborated in this country by the late Sir FRANCIS GALTON, Mr. H. FAULDS, and Dr. J. G. GARSON. By his anthropometric studies, though he was not a medical man, M. BERTILLON allied himself to medicine.

M. BERTILLON'S method is often spoken of as though it relied for its efficacy on dactylography. In point of fact, "Bertillonage," as it has been termed, depends on the application to the bones of man of two principles comparable to those which form the basis of the method of identification by means of imprints of the papillary ridges on the fingers. These principles are: (1) that no two skeletons are ever identical in their measurements; and (2) that certain bone measurements remain the same through life. Starting from these principles M. BERTILLON divided the population of the world into 243 classes, which together represent every possible combination of the following five sets of bone measurements: (1) length of head; (2) breadth of head; (3) length of middle finger; (4) length of left foot; (5) length of forearm from the olecranon to the extremity of the middle finger. Each of these classes was again divided into three subclasses by arbitrary limits representing measurements respectively average, above the average, and below the average. The arbitrary figures by which M. BERTILLON defined the limits of his average term in bone measurements could not have been arrived at save as the result of immense toil and experience. The method, after its enthusiastic introduction by the French criminal department, was adopted more or less universally among the civilised nations. It will be remembered that in 1894 the present PREMIER, then Secretary of State for the Home Department, appointed a committee to inquire into the value of the anthropometric method of identifying criminals, with the result that the Commissioners accepted it in the main, combining it, however, with GALTON'S system of identification by finger prints, founded on the fact that the patterns on the papillary ridges of the tips of the fingers and thumbs are persistent throughout life and show in every individual an infinite variety of design.

The essential difference in operation between BERTILLON'S anthropometry and GALTON'S finger-tip identification lies in the fact that the finger imprints can be taken by any person of average intelligence, but require a highly skilled person to interpret them. Anthropometric measurements, on the contrary, have proved to be very difficult to secure with accuracy, even with perfect instruments, but are comparatively easy of interpretation. After some years of testing, consequently, "Bertillonage" was in 1900 finally dropped in Great Britain, the chief causes of its supersession being the costliness and liability to derangement of the necessary instruments, the necessity for expert measurers to use them, and the frequency with which, in spite of the greatest care, errors of measurement were found to occur. Since experts must be employed with either system, it was found better to retain a few at headquarters to interpret the records of dactylography, which can be taken anywhere by persons of average intelligence and forwarded for interpretation, than to supply the services of the experts all over the land to obtain osteological data, even though, when taken, they are comparatively easy of recognition.

The Control of Measles.

AT the meeting of the Medical Officers of Schools Association in May last Dr. JAMES KERR initiated a valuable discussion on the Control of Measles. Dr. KERR'S address has now been printed,[1] together with the discussion, and the pamphlet forms a comprehensive survey of the problem as it affects this country. It seems to be agreed that "control," in the sense in which it can be applied to scarlet fever, is impracticable. Public health measures, therefore, of the routine type associated with other infectious diseases are not likely to prove of much service. And it is to this fact that we look for the explanation of the complaint that notification is said to be of little value. Notification *per se* does not help us as much with measles because of the well-known fact that measles is most infectious prior to the appearance of the rash and before anything but a guess can be made as to the nature of the illness. But, as has been pointed out by Dr. C. J. THOMAS and other observers, a knowledge of the existence of cases of the disease can be of the greatest possible value if it leads at once to the medical supervision of each case. By proper medical care the mortality and evil sequelæ of measles may be reduced to a minimum, as is well brought out in the figures below contrasting the measles mortality in Aberdeen, where there is no organised effort to combat the disease, with the position in Willesden, where Dr. WILLIAM BUTLER, the medical officer of health, has made strenuous efforts in this direction. In the age-period 1 to 2 years the case mortality in Aberdeen is precisely double that in Willesden, and while in the age-periods from 2 to 3 and 3 to 4 the figures nearly approximate, the advantage is always with Willesden. During the first year the case mortality in Aberdeen is 13·9 against 2·8 in Willesden; and over the whole of the first four years the ratio is 6·5 in Aberdeen against 3·0 in Willesden. Much the same proportion exists in the fourth year of life, while, from 5 years and upwards the case mortality is 0·5 in Aberdeen, against 0·3 in Willesden.

How a knowledge of the presence of measles cases should be obtained is another question, but it is significant that Dr. BUTLER, being medical officer to the Education Committee at Willesden, was entirely dependent on notifications coming from the schools. Dr. THOMAS, on the result of whose five years' investigation of measles in Woolwich the present regulations of the London County Council with respect to this disease are based, spoke strongly against school closure, one important reason against this procedure being that it deprives us of a knowledge of the incidence of the disease, and hence lessens our power of helping to combat the disease. A glance at the chart, illustrating Dr. KERR'S paper, of the crude death-rates for measles, scarlet fever, and diphtheria in London since 1885 shows a fall in the last two illnesses and a lesser fall in measles. This is no doubt largely due to improved hygiene, though the possibility of a change of type in disease is recognised by public health authorities; but in the case of measles the fall is markedly less than the fall in the other two diseases. Nevertheless, it seems agreed that the chief hope of combating measles lies in what Dr. KERR calls "improvements in regard to habits of life, housing, and space to live." Incidentally a strong protest should be entered against the bad hygienic conditions in which measles is nursed in many of the public schools. The relatively harmless character of the disease among better-off children shows this point clearly, and some who contributed to the discussion were of opinion that social condition was much more important than age as affecting the gravity of measles. To escape measles altogether seems chimerical, and many speakers were against the effort unduly to postpone the disease. Dr. KERR allows that it would probably not be a loss in the public health sense if all children could pass through measles by the age of seven; but the awkward thing is that the case mortality is terribly high in infancy—a fact which makes it clear that postponement of the attack is of the greatest possible value.

The education of parents in regard to methods of treatment of measles, an adequate medical treatment of all cases, including a more scientific and aseptic treatment, and hospital isolation for severe cases, are obvious proposals to meet the situation. Notification, whether from school, parent, or doctor, is useful only if it serves to act as the alarm bell calling up medical help in treatment. Dr. C. E. SHELLY, in summing up the discussion, suggested that we might obtain other useful hints by pushing our clinical observations further, asking incidentally, what is the pathology of Koplik's spots? If investigation along the indicated lines gave us some means of making an early diagnosis the [illegible] would be simplified. But in view [illegible] it appears beyond our about a preparation which shall stimulate the protective cells is that the toxins contained in it should be less virulent than those of the actual bacilli causing the disease, and that their molecules should be more easily acted upon and destroyed. Professor Béraneck has carried out experiments on guinea-pigs, which he states are the "animals of choice" for the study of tuberculosis—a view which is perhaps open to objection in that these animals differ so widely from mankind in their susceptibility to the infection. He finds that, though he cannot save the lives of infected guinea-pigs by treatment with his tuberculin, yet those so treated live longer than the controls. He finds also that if the lethal dose of tuberculin for an infected guinea-pig be determined, and if this dose be mixed before injection with serum from a normal guinea-pig, on the one hand, and with serum from a guinea-pig which has received injections of tuberculin, on the other, the animal which receives the latter mixture lives considerably longer than that to which the former mixture is administered. Injections of tuberculin do not produce immunity, and the so-called intensive treatment is accordingly irrational. The optimum dose must be determined by clinical observation, and this quantity continued for subsequent doses so long as its good effect continues, according to the method of Professor Sahli. Unfortunately treatment with tuberculin does not suit all cases, and it is impossible to know, except by experiment, which are suitable. In any case it is important to have recourse to the remedy early, and not to reserve it as a last resource when other measures fail.

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[1] London: J and A. Churchill. Price 1s.

THE DOSAGE OF LOCAL ANÆSTHETICS.

IN the *Journal of the American Medical Association* of Jan. 17th Dr. A. H. Miller has emphasised the necessity for care in the dosage of the local anæsthetics, even those considered the safest. They all have a general effect depending on the dose. The toxicity of cocaine led to the substitution for it of other drugs which are less toxic, but cannot be considered entirely safe. It is unfortunate that their dosage is generally not given by manufacturers and is impossible to find in medical literature. What is given is strength of solution, and the dangerous inference may be drawn that any amount of a solution of that strength may be used with safety. The dosage is calculated for the local effect without considering the general effect. The result is shown by a series of 103 cases reported to the Providence Society of Anæsthetists in which alypin, one of the safest of the local anæsthetics, was used. Of these 35 were minor surgical operations and 68 genito-urinary operations. In 100 of the cases there was satisfactory anæsthesia, in 2 the anæsthetic caused serious difficulty, and in 1 death. In the last case the patient was a healthy man, aged 39 years, who was about to undergo the operation of dilatation of a stricture of the urethra. About 2 drachms of a 10 per cent. solution alypin were introduced into the urethra and bladder. Two minutes later he cried out and had a general convulsion. During the next ten minutes about half-a-dozen such convulsions followed. Respiration ceased in seven or eight minutes and at the end of ten minutes the pulse had stopped beating. Artificial respiration and stimulation were tried without avail. In another case a healthy man was about to have sounds passed for retention of urine. An unmeasured quantity of a 10 per cent. solution of alypin was introduced into the urethra and bladder. After about five minutes there was a general convulsion. The pulse became imperceptible and the respiration ceased. The patient was revived with difficulty after about two hours' work. In the third case about 1½ drachms of a 10 per cent. solution of alypin were introduced into the urethra and bladder for dilatation of a stricture. In three minutes the patient became unconscious, and after about five minutes had a severe general convulsion. The respiration ceased, the pupils were widely dilated, and the face was somewhat cyanotic, but the pulse remained good. The treatment consisted in artificial respiration and the inhalations of oxygen. In 10 minutes the danger seemed to be passed and recovery ensued.

ST. GEORGE'S HOSPITAL.

ON Thursday in last week a special court of governors of St. George's Hospital, presided over by Lord Greville, was held in accordance with the notices published in these columns. As a result of the deliberations the house committee received, on the motion of Sir Henry Burdett, power to refer to a committee of governors the consideration of the laws of the institution. The intention, if possible, of amalgamation with the Westminster Hospital is kept to the front by the agreement that when the occasion arises a joint committee of the two hospitals will be appointed. The unfortunate episodes which led to the resignation of the presidency of the hospital by H.R.H. the Princess Christian were met by a resolution regretting that an impression had been given that the proper authority of the president of the hospital had been resisted, and acknowledging the right of the Princess Christian to institute an independent inquiry. In moving a resolution, which was duly passed, appointing Lord Plymouth and Mr. West honorary life governors of the charity, Dr. John Cahill, in a wise little speech, explained that Mr. West had not sought for a salaried post in the hospital, and would not have entertained appointment thereto had he not been under the belief that the governors of the charity approved of what was being done. Dr. Cahill pointed out that the various differences of view amongst the governors had not impaired the high quality of the service given by St. George's Hospital to the sick poor.

DIABETES INSIPIDUS AND INFANTILISM.

THE effects of disturbance of the functions of the ductless glands, whether they be considered as acting together or separately, may be divided provisionally into two groups. There are, first, alterations of the nature of a dystrophy, as in acromegaly, infantilism, &c.; and, secondly, there are profound modifications of metabolism, as in diabetes mellitus and glycosuria, occurrence of which in disease of the ductless glands is common. Sometimes a condition of diabetes insipidus has been noted, and various investigators have remarked its association with experimental lesions of the pituitary body. Cushing has found that in a number of his surgically treated patients an unaccountable post-operative polyuria has occurred. A patient with moderate signs of hypopituitarism and normal urinary output, developed an extreme diabetes insipidus (10 or 11 litres in the 24 hours) for three months after a simple sellar decompression. Further, the same observer has often noted diabetes insipidus in animals after operation on the hypophysis. It has long been recognised that a transient hemianopia—hemianopia fugax—is sometimes associated with diabetes insipidus, but the real significance of the fact is only now being appreciated. According to Futcher, in a large number of recorded cases of diabetes insipidus both hemianopia and primary optic atrophy have been described. Schäfer and Magnus were the first to show that extracts of the posterior lobe of the pituitary gland possess diuretic properties of high degree, and Schäfer and Stiles have used such extracts clinically as diuretics. It is therefore clear that integrity of function of the hypophysis is intimately linked with control over urinary output, and that the appearance of polyuria or diabetes insipidus as a clinical symptom must at once direct attention to the matter of hypophyseal function. In the *Nouvelle Iconographie de la Salpêtrière*[1] MM. P. Lereboullet, M. Faure-Beaulieu, and E. Vaucher have published an interesting case exhibiting a combination of diabetes insipidus and infantilism. The patient was a young man, aged 24, who came under observation in January, 1913. He had developed normally up to the age of 14. Very shortly after a shock, sustained by involuntary immersion in cold water through falling out of a canoe, he began to pass large quantities of urine, 7 or 8 litres a day, and to suffer from polydipsia. These symptoms have persisted, but there has never been either sugar or albumin in the urine. At the age of 16 the patient's teeth all dropped out in the course of a few months as the result of painful ulceration of the gums. A year or two later generalised eczema of severe type appeared and has proved very intractable. On examination the youth was found to present extremely well-marked signs of infantilism. There was no hair on face or pubes, and only one or two sparse hairs in the axillæ. His voice had not "broken." There was double testicular atrophy, and the penis was very small, like an infant's. There was complete absence of sexual desire and power. No objective ocular signs were found, however, and the sella turcica was seen radioscopically to be of normal size and appearance. The patient's mental condition was quite good. While under observation he often passed as much as 10 litres of pale limpid urine in the 24 hours. Hypophyseal, thyroid, testicular, and pancreatic extracts were tried in turn during four months, but all failed to modify the patient's symptoms materially. The authors who have published the case are of the opinion that the condition is due to defect of function of the pars intermedia, usually described as belonging to, or at least mainly associated with, the pars posterior or nervosa of the pituitary gland. A number of clinical cases have now been reported where diabetes insipidus occurred with other definite indications of pituitary disease. Simmonds has published a case of tumour of the posterior lobe in which a polyuria of 19 litres in the 24 hours occurred. Franck has recorded a case of attempted suicide with a revolver in a man, aged 39, who, not long after shooting himself in the right temple, began to put on fat and developed a well-marked diabetes insipidus. Radiography showed clearly a ball occupying the posterior section of the sella turcica. Marie and Boutier have described a similar combination, as have Morley Fletcher, Berblisiger, Williams and Belfield, and others. Farini has treated a case of diabetes insipidus systematically with pituitary extract, but was able to control it and reduce it only as long as the treatment was active; whenever the latter ceased polydipsia and polyuria returned. There are, no doubt, difficulties in regard to the actual mechanism of production of the symptoms concerned. It is held at present that infantilism is associated with diminution of function of the anterior lobe, a hypopituitarism, while apparently the diabetes insipidus is a sign of liberation of an excess of posterior lobe secretion, a hyperpituitarism. On the one hand, however, different parts of the gland seem to be involved in the production of these two conditions, and, on the other, the study of the syndromes occurring in the course of disease of other ductless glands has accustomed us to analogous physiopathological dissociations.

A RARE FORM OF ABSCESS IN APPENDICITIS.

AT a meeting of the Académie de Médecine on Jan. 20th M. Routier reported a case of appendicitis in which an abscess formed in a very unusual situation—in the mesentery. A woman, aged 24 years, previously quite well, was awakened in the night of Jan. 30th, 1912, by severe abdominal pain. As she was menstruating she attributed the pain to this condition. But next day the temperature was 104·3° F. and she was very prostrate. A purgative was given, but it was vomited. On the third day her medical attendant, finding gurgling in the right iliac fossa, diagnosed typhoid fever. Then the spleen appeared to enlarge, which confirmed his diagnosis, and he sent the patient to hospital. Widal's test and blood culture were performed with negative results. For a fortnight attacks occurred every five days, characterised by rises of temperature to 104° or 105·8°, followed by shivering and chattering of the teeth. Finally, a painful point to the left of and a little below the umbilicus became manifest. On palpation there seemed to be a swelling at this spot. The patient continued in a prostrate condition and suffered from constant nausea. M. Routier then saw her in consultation. He found the whole abdomen supple except at the spot mentioned, where there was a painful indurated zone of the size of a 5-franc piece. He did not make a definite diagnosis, but considered that operation was necessary, and that probably an abscess would be found. This was done on Feb. 20th. The peritoneum and intestinal coils were found normal. On separating the latter an induration was found at the root of the mesentery, the anterior layer of which was raised by the swelling. The pulsations of the aorta were transmitted to it. Having carefully isolated the field of operation, two fingers of the left hand were passed in front of the aorta beneath the swelling and a vertical incision was made. A large spoonful of thick creamy pus escaped. The cavity of the abscess was explored without result. A wick-drain was inserted, and the abdominal cavity was closed. The patient at first considerably improved; the pain disappeared, but the temperature remained 104°, and she died on March 4th. The origin of the abscess was a mystery until the necropsy, which showed that an appendix in an abnormal situation—between the two layers of the mesentery—had perforated. From the perforation a brightness, which is due to the white light reflected from the pastille, is dulled if necessary by the interposition of a standard neutral tint composed of a fraction or multiple of one unit of each of the red, blue, and yellow glasses combined, which absorbs the white light. For example, the colour sensation transmitted from the unexposed pastille in daylight is: yellow, 11·5; green, 1·5; light, 1·5; for 1·5 of neutral tint was required to absorb all the white light transmitted. Similarly for 1/4 and 1/3 B under bright daylight 0·5 and 0·2 neutral tint were required respectively.

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[1] September-October, 1913, p. 410.

The following precautions should be taken when using the radiometer:—

In daylight: 1. This should be diffused and as white as possible. On no account should measurements be made near sunlight. 2. Keep the instrument vertical, avoiding shadows.

Using electric light: 1. Use an 8 c.p. carbon filament lamp with frosted glass so arranged with a shade that the eyes are protected from the light. The shade should be black, not coloured. Those used for microscopes do very well. The lamp should be in good condition. 2. Keep the instrument vertical, the pastille being about 8 inches away from the lamp.

In both cases: 1. Examine as quickly as possible, for the pastille fades even in electric light. 2. The standard white background must always be used and kept clean.

The Standards.

1. 1/4 B. This will be useful to those people who work with the pastille on the skin in tinea. If used in this way without any other control a new pastille should always be exposed. In daylight 0·4 neutral tint is required on the pastille side to absorb the white light. Both this standard and the 1/2 B can be used in treatment of deep-lying tissues with filtered rays when it is required to bring the tube as close as possible to the skin. 2. 1/3 B is the dose employed in the treatment of various skin affections. 0·2 of neutral tint is sometimes needed. 3. 1/2 B is a useful standard: (*a*) It is employed in the treatment of certain diseases of the skin; (*b*) it can be used in tinea by those who use the "1/2 time distance" method. If the usual anticathode skin distance is 15 cm., and this is reduced by 1/4 to 11·25 cm., 1/2 B at the original half-way position 7·5 cm. from the anticathode will mean that the scalp will receive 1/4 B. I have not at present had any experience of this method as recommended by Hampson and further modified by Batten,[2] but in view of the readiness with which this tint can be appreciated in the radiometer the procedure should be rendered easier. Further at a point on the curve just below 1/2 B—namely, 4/10 B—the colour is a yellow with a trace of blue. Using this standard, which can be supplied if required, one would be able to give the equivalent of 4/5 B in the true half-way position, although, of course, the margin for error is smaller.

The Epilation Doses.

4. 4/5 B usually produces epilation without erythema, but cannot always be relied upon for this purpose. It is frequently insufficient for the top patch in tinea and for very stiff beards; for these the full dose should be given. 5. 1/1 B always produces epilation. There is usually some transitory erythema at about 18 days, better marked on the skin near the ears and at the back of the neck if unprotected. 6. 1·2 B is the highest dose I have ever employed in tinea. Epilation of course results, and is always accompanied by erythema and sometimes by transient dermatitis on the unprotected skin. If any septic foci are present on the scalp there is a smart inflammatory reaction around them. This form of dermatitis starts as an erythema and is followed by a slight desquamation, but the whole process clears up in a week under soothing applications. In the few cases where this dose was reached the re-growth of the hair, though slower than after the smaller doses, was quite satisfactory. I should imagine that this point was very nearly the limit consistent with safety in tinea. I have given it with success as an unscreened dose for rodent ulcer, allowing a full month to elapse between the first and second dose.

Standards for higher doses up to 4 B can be easily made, but as these doses would of course only be given with a filter, there is not much object in using such standards, as it is becoming the general practice to measure the dose with the pastille under the filter.

Where very accurate doses are required new pastilles should be used. The exposed pastille never returns exactly to its original tint; there is less green even after thorough bleaching. This fact makes very little difference to the orange part of the curve—that is to say, tint B is not reached appreciably quicker provided that the pastille has not been used more than three times at most.

This instrument has been in daily use in the X ray Therapeutic Department of St. Thomas's Hospital for some months, and the results in tinea work have been most satisfactory. During 1913, the first year of the department, about 200 cases of tinea were treated. At first we were always in doubt with regard to any dose below the full B, and several cases had to be done a second time. Since these standards have been employed there has only been one case which has needed a second sitting. In this there was incomplete epilation after a full dose over an area occupied by a large known nævoid patch on the scalp. We use 4/5 or 9/10 B for all except the top patch, which receives the full dose. There have been no cases of permanent baldness and none of dermatitis except the transitory form with 1·2 B already mentioned.

The advantages of this radiometer over others where Sabouraud's pastille is employed are:—

1. The colour standards are constant and invariable in tint, easily kept clear, and do not fade. The smaller differences between the fractional doses are readily appreciated.

2. They have all been verified experimentally in tinea work, and any fractional or multiple dose can be standardised.

3. There is provision of a separate series for daylight and standard artificial light. A series could be worked out for any constant source of light if required.

The pastille should be examined in its holder if possible. The instrument can be adapted to any form of pastille holder. The makers are Tintometer Limited, The Colour Laboratory, Salisbury.

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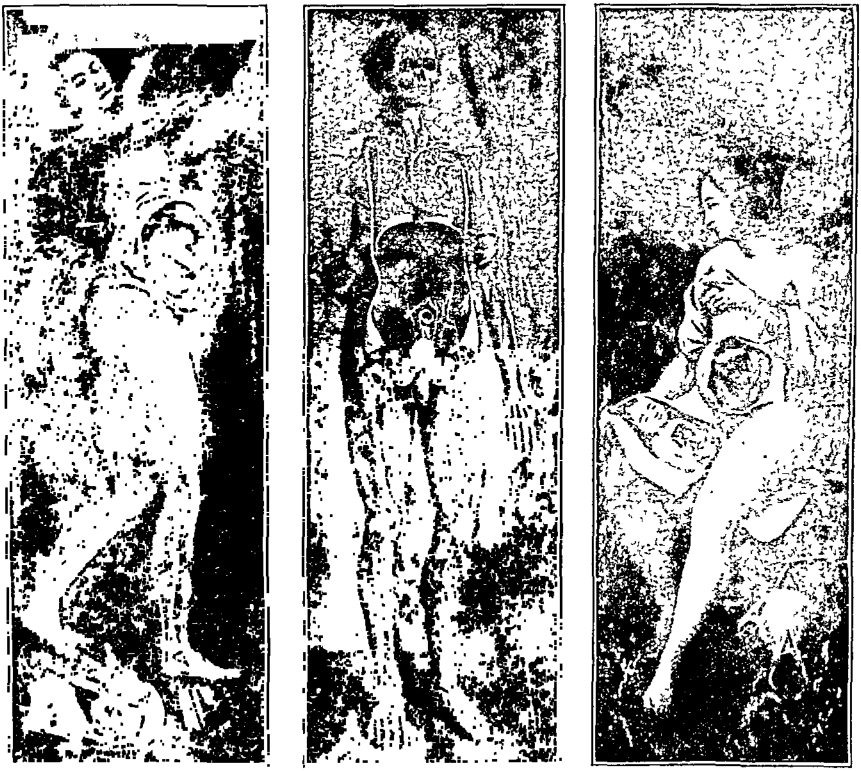
[2] Brit. Med. Jour., Oct. 11th, 1913.

SOME PANELS BY JACQUES GAUTIER D'AGOTY.

There are at the present moment on private exhibition in Paris 12 painted panels attributed to Jacques Gautier d'Agoty which would form a remarkable adornment to any great medical library or institute if they should have the good fortune to find a generous purchaser. We reproduce here three of the pictures, the enormous reduction being intimated by the fact that each panel measures 2·30 metres in height by 0·70 metre in breadth.

The origin of the panels, though their authenticity can hardly be challenged, is a little obscure. Jacques Gautier d'Agoty, a member of the Dijon Academy of Sciences, was born in Marseilles in 1710, and died in Paris at the age of 75. He was a philosopher, a distinguished anatomist, an engraver, and, *teste* these panels, a painter of remarkable quality. He published in 1745 an illustrated work under the title "Myologie Complète en Couleur et Grandeur Naturelle," which was illustrated by 20 plates with letter*press furnished by Jacque François Duverney, lecturer and* physician of the Jardin du Roy, and brother of the great Guichard Joseph Duverney. This book, separately or bound up with another work on the brain and the special organs of sense, illustrated from dissections made by Duverney, and sometimes including a third work on the general anatomy of the viscera with 18 coloured plates, is occasionally catalogued by booksellers, so that the 46 plates are familiar to some bibliophiles. In 1752 d'Agoty wrote a work entitled "Natural History," which dealt with philosophy, art (especially painting), science, and physical development, which was illustrated by 10 plates. He published also a refutation of the Newtonian theory of fundamental colours, under the title of "Chroa Genesie," in 1750, and conducted a controversy on the same subject in the London scientific papers of that year.



Reproductions from photographs of three of the D'Agoty panels.

The 12 panels which are now in Paris, in the possession of M. Oscar Scarpa, at 12, rue Pierre Joignaux, Bois Colombes, appear to be certainly the origins of some of the plates, and not to have been themselves painted from the plates. This is in direct contradiction to the suggestion that they might have been painted by d'Agoty's son Arnaud, who wrote several medical works illustrated by coloured plates.

The technique of the 12 panels is admirable, and the delicacy and beauty of the women's faces show them to be the work of a finished painter. The existence of the panels has long been an open secret, indeed, a description of them can be found in the "Bibliothèque National," *and their history, taken in connexion with the numerous* plates illustrating d'Agoty's works, presents many interesting problems to the art critic. Their proper home is certainly some great institution, like the École de Médecine at Paris or the Museum of the Royal College of Surgeons of England.

after the minimum of 19°, the maximum was as low as 31°. Rain fell only on 10 days, and the total, 0·54 in., was no more than 50 per cent. of the January average. As many as 17 days—most of them during the cold spell—were entirely sunless, and the total sunshine for the month was only 26 hours, against an average of 44 hours. Both Bath and Nottingham had the same minimum temperature as Kew, but their mean maximum was 1° or 2° higher. Bath had no more than 7 days with rain, giving a total equal to that at Kew, but at Nottingham rain fell on 18 days, and yielded an aggregate of 1·1 in. Bath was more sunny than Kew, having a total of 38 hours—only 8 hours less than the normal—while at Nottingham there were no more than 21 hours, just half the average. For many days the coast of Kent was the coldest part of the kingdom. Further west the cold became gradually less keen. At Brighton the mean maximum temperature was a degree lower than at Kew, while the mean minimum was only a degree higher. At Bournemouth the mean maximum was 43°, or a degree higher than at Kew, and the mean minimum 35°, 2° higher than at Kew. At Torquay the corresponding figures were 45° and 37·5°, at Newquay 43° and 39°, and at the Scilly Isles 48° and 41°. Sunshine was more at Brighton than at the resorts further west. Its total number of hours, 60, was 6 more than the average, and 11 hours more than at Bournemouth, while it exceeded the totals at Newquay and Scilly by 23 hours. Torquay, generally among the brightest spots, and with a January average of 66 hours, experienced a very dull month, its total sunshine being only 28½ hours. As in London and central England the rainfall along the south and south-west coasts was much less than the normal, as well as in the Channel Islands. During the daytime Jersey had the same temperature as Torquay, but its mean minimum temperature of the night was 1½° lower. The Peak region of Derbyshire was seldom exceptionally cold. At Buxton the mean day temperature was 39°, and that of the night 32°, while the lowest temperature of the month was 5° higher than the 19° recorded in London.

Abroad.

The south and south-west of England compared very well with the Riviera and the south-west corner of France in the matter of temperature. At Nice the sheltered thermometer fell to 32° or below on 7 nights, and the mean minimum was only 35°, the same figure as Bournemouth, and some degrees below that on the coasts of Devon and Cornwall and at Scilly. The mean maximum was, however, higher than at any place in this country, although it was only 1° above that at Scilly. Biarritz was as cold at night as Brighton, and colder than all the English resorts to the westward, while its mean afternoon maximum, 45°, only equalled that at Torquay and Jersey, and was 3° below the figure at the Scilly Isles. Compared with the interior of France, the Netherlands, and Germany, the cold in this country was nothing. At Paris the mean maximum temperature was 37°, 2° lower than at Buxton, while the mean minimum was 25°, and the lowest reading recorded (on the 24th) 12°. The weather was, however, generally bright, and the total amount of sunshine as high as 68 hours, or 40 hours more than fell to the lot of London. At Brussels rain and snow were rather frequent, and the temperature a degree colder than at Paris both during the day and night. The lowest minimum temperature was 11°, and, as at Paris, the thermometer remained continuously below the freezing point for many consecutive days. At Berlin the temperature was lower than at Brussels, its mean maximum being 33° and its mean minimum 22°. On several nights the thermometer descended to 12°, and on some of the days rose no higher than 20°. Frost was frequent in northern Italy and occasionally occurred in the southern districts. Considered generally, however, the climate south of Rome was milder than the Riviera and nearly as bright. Maximum temperatures above 50° were very common, and very occasionally the thermometer ascended to within a few degrees of 60°. The Madeira Islands were too far south to be influenced by the cold current of wind that brought winter to Europe, and the mean temperature of the month was about equal to that of early June in England. The mean maximum was as high as 66° and the mean minimum no lower than 56°. On several days the thermometer reached 70°, while not a single night was colder than 52°. Rain fell on 7 days, and gave a total of 1·5 in.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the fourteenth meeting of the Royal Commission on Venereal Diseases evidence was given by Sir Arthur Downes, the senior medical inspector for Poor-law purposes of the Local Government Board, and by Dr. E. B. Sherlock, of the Metropolitan Asylums Board.

Sir Arthur Downes stated that the general opinion expressed by Poor-law medical officers in London was that venereal diseases are less prevalent and milder in type amongst the poor than they were formerly. The opinions of provincial medical officers varied somewhat, but on the whole they appeared to be to the same effect; there were, however, some exceptions, chiefly in seaport towns. He gave it as his general impression that the prevalence of venereal disease amongst the very poor was not large. He explained that under the Poor-law venereal diseases were on exactly the same plane as all other diseases, and that it was the duty of Poor-law authorities to afford relief to all persons in urgent need of any important assistance, such as medical assistance, which they were unable to provide for themselves.

Sir Arthur Downes said that although Poor-law authorities did not necessarily insist on venereal cases being treated in an institution, he believed that a considerable proportion of the authorities objected to affording outside treatment in the case of these diseases. This, he thought, might have the effect of deterring some people from coming for treatment. At the present time the use of the more recent methods of diagnosis and treatment in connexion with venereal diseases was confined to a number of the more important Poor-law authorities. In some of the large unions salvarsan treatment was in use and the Wassermann test was applied. In London a very fine system of Poor-law infirmaries had been provided, almost all of which were equal in their administration to general hospitals; most of these infirmaries were able to set apart special wards for venereal cases, though they could not always reserve those wards entirely, the number of cases not being sufficient to justify their setting aside beds which were very valuable. Most of the London unions sent their Wassermann tests to the Wassermann Institute or the Clinical Research or some pathological laboratory. In the case of the small country unions laboratory provision could not be expected, but the powers of the guardians to pay for diagnosis and to send patients for treatment in special institutions were very elastic; they had also wide powers of combining amongst themselves for any special purpose.

Referring to the recommendation of the Royal Commission on the Poor-laws that subject to certain safeguards against abuse the public assistance authority should have power to detain cases of venereal disease when medically certified to be dangerous to others, Sir Arthur Downes said that he could only support this proposal if the detention was not of a penal character and was so arranged as to be as little deterrent as possible.

At the fifteenth meeting evidence was given by Dr. Helen Wilson.

Dr. Wilson said that it was now generally recognised that it was quite futile to attempt for venereal diseases such isolation as was practised in regard to acute infectious diseases, the main reason being that in a large proportion of cases venereal diseases did not prevent the sufferer from following his ordinary avocation, that they were easily concealed, and that there were strong motives for concealment. The objects to be aimed at were, first, to bring every sufferer under efficient treatment at the earliest possible moment, thereby shortening the infective period; and secondly, to secure his own intelligent coöperation both for his own cure and for the protection of his associates. She did not think that compulsory notification would ever be a material help in diminishing these diseases, but that any attempt to deal with these diseases otherwise than on voluntary lines would array a tremendous amount of opposition. If voluntary methods were given a fair and intelligent trial she was convinced that the residuum of cases would be comparatively small and that probably means could be found for dealing with them.

As regards the organisation of medical treatment, Dr.

Wilson thought that the hard and fast line which has been drawn between these diseases and all others should be abolished. *Admission to institutions and treatment of the* diseases should not be governed by inquiries as to the method in which the disease was contracted, and the nursing and all other arrangements should be as good in the wards for the treatment of these diseases as in any others. Names like "Lock" and "Magdalene" for special wards or hospitals had a deterrent effect and should be avoided. She laid stress on the importance of providing evening clinics for out-patients.

Dr. Wilson was of opinion that further instruction was needed for medical students and nurses, and that the education of the general public in matters of sex hygiene was of the highest importance. She doubted whether it would be wise to introduce systematic class instruction in elementary schools, and she was certainly of opinion that in these schools there should be no instruction dealing with diseases. In the first instance, parents and teachers needed preparation for the work of instructing children. She understood that in some few training colleges this matter was already receiving attention, and teachers were being trained, not with the object of giving class lessons, but to enable them to speak to the older children privately when they saw occasion to do so. In some schools in America the plan had been tried of inducing the mothers to come and hear about the subject in the first place and afterwards of beginning a course of lessons to the girls, the mothers being invited to be present the whole time. Dr. Wilson considered this arrangement of teaching the girls in the presence of the mothers to be an admirable one as helping to secure what was most wanted—that the girls should be in the position to speak frankly to their mothers in private about the subject.

At the sixteenth meeting Surgeon Scott, R.N., who was until recently in charge of the Naval Hospital at Chatham, gave evidence respecting the methods of treatment and results obtained in naval hospitals.

AN INQUEST AT WORCESTER.

THE coroner for Worcester, Mr. W. B. Hulme, on Feb. 10th held an inquiry into the death of Mrs. Daniels. Before

the case was that Mr. Burden, who, so far as he knew, had no qualification, had taken it upon himself to treat her. It would be a most serious matter if Mr. Burden had treated her improperly.

Evidence was given by the daughter of the deceased, who said her mother had been unwell for a little over a year, and had been treated by Mr. Burden. When she had to go to bed three months ago Mr. Burden saw her, and said she had had an
, that it had burst, and had
suggested many times that

why, when she saw that her
on her own account send for
. Because when I became
Mr. Burden seemed so confident and so often reassured me that he would pull her through.

Continuing, the witness said Mr. Burden told her that her mother had worm fever. A rash developed all over the body, and Mr. Burden told her that that was just what he

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He first tried to draw
water
mpty. The liver was
large,
or 50, and its surface
was
e its structure was
tough
ngs were practically
healt
the exception of the thickening of the edge of one of the valves. The stomach was empty, and the large bowel, which had an extremely thin wall, had fluid contents. Examining the kidneys, he found that the cortex was reduced in width, and the capsule of the kidney was unduly adherent to the substance of the kidney. The right kidney weighed 5½ ounces, which was slightly enlarged. There was no solid matter in the whole of the intestines, which was somewhat unusual unless there had been severe diarrhœa. He found no sign of tapeworms *in the intestines. Taking into consideration the fact that*
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some hours
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vas due to
uræ
there was

clivers, burdock root, figwort, blue flag root, black samson, black root, and motherwort—and asked the witness if he recognised any. Mr. Bates replied that he knew the names of some but not their action. In reply to a further question he said it was possible that she had been suffering from mucous colitis, which might have caused mucous casts, and

off. She had acute dermatitis supervening on a chronic eczematous condition. Her temperature was below normal, 98°F., and her pulse was about 80. She was only semi-conscious, and consequently could give no account of her symptoms. It was impossible for him to form a diagnosis of her actual disease. She was practically dying. He was present at the post-mortem examination, and he agreed with Mr. Bates as to what he found. He believed
of the
Asked
he had
been under medical treatment he said he could not prognosticate, but he believed that if the skin had been got into a healthy state death might not have taken place when it did. The disease of the kidneys would probably have caused death sooner or later, but the affection of the skin was the

was a member of the National
ists and had been practising
describing his treatment.
e was seriously ill on the
you call in a doctor or tell

as necessary that night.
en he asked you what would
happen in case of death, that you could give a certificate?—No, I told him I could give a notification. That was weeks before.

Y
call in a

til last
Wednesday.

Then why didn't you call in a doctor?—I did not think it was necessary.

Why didn't you try to get the best advice you could when you knew she was so seriously ill?—Because I felt that I
told them

"I hereby
at she died
wledge the
from attack
ociate and
16, Bridge-

ificate had

held?—Yes.

The Coroner: Do you charge for your services?—I have
t for medicines.
Act allowing herbalists to
VIII., and it had never been
the text.
to show the recognised posi-
inations they had to pass, but
the Coroner said he was afraid he could not allow questions on that. When Mr. Anthony went on to refer to the National Insurance Commissioners having made regulations

recognising herbalists, the Coroner remarked again that they could not go into those matters.

Mr. Anthony then maintained that Mr. Burden was entitled to give a notification which registrars must accept.

The Coroner: They can accept it as a notification, not as a certificate.

Mr. Anthony: But Mr. Burden says he gave it as a notification.

The Coroner: It speaks for itself, "I hereby certify."

The Coroner, addressing the jury, pointed out that Mr. Burden was not a duly registered medical practitioner, and he had taken upon himself to attend the deceased, and, except at the last moment, he refrained from advising the relatives to call in a doctor. He had said that he did not anticipate the woman's death. It was not necessary for a man to be a duly registered medical practitioner to enable him to treat patients if he had the requisite knowledge and made common and reasonable use of that knowledge. Mr. Burden's knowledge was nothing like what an ordinary medical man's would be. He would have very little opportunity of finding out what the deceased was suffering from. A medical man would have been able to diagnose her disease. The doctors had told them that the woman had diseased kidneys, and that they could not say if she had been attended by a doctor that she would still be living. They also said that none of the herbs mentioned would have been injurious. If that was so any case against Mr. Burden fell to the ground. Unless the doctors could say that the deceased's life was shortened by what Mr. Burden did there could be no charge against him in any way.

Without any comment, beyond expressing sympathy with the relatives, the jury returned a verdict in accordance with the medical evidence.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8407 births and 5430 deaths were registered during the week ended Saturday, Feb. 14th. The annual rate of mortality in these towns, which had been 17·5, 18·4, and 16·5 per 1000 in the three preceding weeks, further declined to 15·6 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 17·4, against a corresponding rate of 17·5 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·7 in Ilford, 7·7 in Walthamstow, 8·4 in Eastbourne, 8·5 in Enfield. and 9·4 in Hornsey, to 22·2 in Barnsley, 22·7 in Rochdale and in Gateshead, 23·9 in Merthyr Tydfil, 25·5 in Bury, and 27·0 in Burnley.

The 5430 deaths from all causes were 320 fewer than the number in the previous week, and included 401 which were referred to the principal epidemic diseases, against 400 and 375 in the two preceding weeks. Of these 401 deaths, 129 resulted from whooping-cough, 89 from measles, 68 from infantile diarrhœal diseases, 64 from diphtheria, 37 from scarlet fever, and 14 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2, against 1·2 and 1·1 per 1000 in the two preceding weeks. The deaths attributed to whooping-cough, which had steadily risen from 64 to 116 in the five preceding weeks, further increased to 129 last week, and caused the highest annual death-rates of 1·1 in Leicester and in Birkenhead, 1·2 in Newport (Mon.), 1·6 in Halifax, 1·7 in Swansea, *and* 2·2 *in Rochdale*. The deaths referred to measles, which had been 70. 79, and 64 in the three preceding weeks, rose to 89 last week; the highest death-rates from this disease were 1·6 in Middlesbrough, 1·9 in Barnsley and in Cardiff, 2·6 in Swansea, 5·0 in Dudley, and 5·7 in Burnley. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 68, 93, and 66 in the three preceding weeks, were 68 last week; of this number 17 were recorded in London, 5 in Birmingham, 4 in Manchester, and 3 each in Leicester, Liverpool, and Bradford. The deaths attributed to diphtheria, which had been 68, 85, and 70 in the three preceding weeks, further declined to 64 last week, and included 11 which were registered in London, 7 in Birmingham, 4 in Manchester, and 3 each in East Ham, Portsmouth, Cambridge, and Walsall. The deaths referred to scarlet fever, which had been 41, 29, and 38 in the three preceding weeks, were 37 last week, of which 10 occurred in Birmingham, 4 in London, 4 in Liverpool, and 3 in Salford. The fatal cases of enteric fever, which had been 17, 21, and 21 in the three preceding weeks, fell to 14 last week, and included 7 in London and 2 in Sheffield.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3567, 3599, and 3554 at the end of the three preceding weeks, had further declined to 3537 on Saturday last; 428 new cases were admitted during the week, against 375, 460, and 379 in the three preceding weeks. These hospitals also contained on Saturday last 1149 cases of diphtheria, 283 of whooping-cough, 82 of enteric fever, and 74 of measles, but not one of small-pox. The 1250 deaths from all causes in London were 190 fewer than the number in the previous week, and corresponded to an annual death-rate of 14·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 421, 425, and 347 in the three preceding weeks, further declined to 262 last week, and were 101 below the number recorded in the corresponding week of last year.

Of the 5430 deaths from all causes, 156 were attributed to various forms of violence, and 388 were the subject of coroners' inquests. The causes of 31, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Nottingham, Portsmouth, and in 70 other smaller towns. Of the 31 uncertified causes of death 5 were recorded in Birmingham, 4 in Liverpool, 3 in Rochdale, 2 in Stoke-on-Trent, and 2 in Coventry.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1159 births and 743 deaths were registered during the week ended Saturday, Feb. 14th. The annual rate of mortality in these towns, which had been 20·9, 20·0, and 18·4 per 1000 in the three preceding weeks, further declined to 16·9 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 19·5, against a corresponding rate of 17·4 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 9·2 in Perth, 10·8 in Hamilton, and 14·1 in Clydebank, to 20·5 in Ayr, 21·6 in Kirkcaldy, and 21·8 in Coatbridge.

The 743 deaths from all causes were 64 fewer than the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against numbers declining from 100 to 68 in the three preceding weeks. Of these 75 deaths, 41 resulted from measles, 12 from diphtheria, 8 from infantile diarrhœal diseases, 7 from scarlet fever, 4 from whooping-cough, and 3 from enteric fever, but not one from small-pox. These 75 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 51, 48, and 34 in the three preceding weeks, rose to 41 last week, of which number 20 were recorded in Glasgow, 8 in Edinburgh, 3 in Paisley, and 2 each in Leith, Greenock, and Ayr. The deaths referred to diphtheria, which had been 19, 14, and 15 in the three preceding weeks. fell to 12 last week, and included 3 in Glasgow, 3 in Edinburgh, and 2 in Aberdeen. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 9, 12, and 7 in the three preceding weeks, were 8 last week, 5 of which occurred in Glasgow. The deaths attributed to scarlet fever, which had been 15, 10, and 6 in the three preceding weeks, were 7 last week, and included 2 in Glasgow and 2 in Edinburgh. The 4 deaths referred to whooping-cough, all of which were recorded in Glasgow, were 2 below the average in the earlier weeks of the quarter. Of the 3 fatal cases of enteric fever 2 occurred in Glasgow and 1 in Greenock.

The deaths referred to diseases of the respiratory system, which had declined from 230 to 179 in the four preceding weeks, further fell to 147 in the week under notice; 30 deaths were attributed to various forms of violence, against 36 and 33 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 638 births and 437 deaths were registered during the week ended Saturday, Feb. 14th. The annual rate of mortality in these towns, which had been 23·8, 24·0, and 21·9 per 1000 in the three preceding weeks, further declined to 18·9 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these Irish towns averaged 22·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 17·4, while in the 16 Scotch towns it was equal to 19·5 per 1000. The annual death-rate last week was equal to 20·4 in Dublin (against 14·4 in London and 16·8 in Glasgow), 18·6 in Belfast, 19·0 in Cork, 5·1 in Londonderry, 23·0 in Limerick, and 28·5 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 17·1 per 1000.

The 437 deaths from all causes were 70 fewer than the number in the previous week, and included 35 which were referred to the principal epidemic diseases, against 21 and 37 in the two preceding weeks. Of these 35 deaths, 9 resulted from scarlet fever, 9 from whooping-cough, 8 from infantile

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1914.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death rate per 1000 living.†
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever	Other continued fevers	Puerperal fever	Erysipelas	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living		
LONDON…	4,516,612	1	1717	672	—	85	1	22	379	4	3	2884	8·3	—	27	17	51	53	16	86	250	0·7	6379	18·4
West Districts.																								
Paddington	142,055	—	57	37	—	—	—	1	11	—	—	106	9·7	—	—	—	3	1	1	3	8	0·7	221	20·2
Kensington	170,817	—	55	17	—	—	—	—	15	—	—	87	6·6	—	1	1	1	—	—	6	9	0·7	230	17·5
Hammersmith	124,750	—	56	6	—	1	—	—	5	—	1	69	7·2	—	—	—	—	1	—	1	2	0·2	176	18·2
Fulham	158,849	—	77	26	—	5	—	1	6	—	—	115	9·4	—	—	—	1	3	2	5	11	0·9	203	17·3
Chelsea	63,791	—	28	4	—	—	—	—	6	—	—	38	7·8	—	—	—	—	—	—	3	3	0·6	94	18·3
City of Westminster	152,346	—	45	6	—	1	—	—	4	—	—	56	4·8	—	—	—	—	2	1	2	5	0·4	184	16·5
North Districts																								
St. Marylebone	112,892	—	25	6	—	2	—	1	2	—	—	36	4·2	—	—	—	—	—	—	6	6	0·7	167	19·7
Hampstead	86,731	—	15	11	—	5	—	2	3	—	—	36	5·4	—	—	—	—	3	1	—	4	0·6	94	14·9
St. Pancras	212,497	—	69	29	—	6	1	—	25	—	—	130	8·0	—	—	—	3	3	—	3	9	0·6	324	19·8
Islington	324,764	—	150	50	—	15	—	2	26	—	—	243	9·8	—	—	—	2	5	2	6	15	0·6	499	19·5
Stoke Newington	50,454	—	21	13	—	1	—	—	1	—	—	36	9·3	—	—	—	—	1	—	—	1	0·3	63	15·5
Hackney	223,724	—	88	52	—	4	—	1	22	—	—	167	9·7	—	—	—	2	3	2	3	10	0·6	298	17·5
Central Districts.																								
Holborn	45,861	—	14	4	—	2	—	—	3	—	—	23	6·5	—	—	—	—	1	—	—	1	0·3	61	17·4
Finsbury	83,212	—	33	7	—	4	—	1	14	—	—	59	9·2	—	1	—	1	1	1	3	7	1·1	151	23·4
City of London	17,129	—	8	3	—	—	—	—	1	—	—	12	9·1	—	—	—	—	—	—	—	—	—	22	17·4
East Districts.																								
Shoreditch	108,869	—	27	16	—	—	—	—	22	—	—	65	7·8	—	—	2	3	2	—	3	10	1·2	184	22·7
Bethnal Green	127,662	—	28	14	—	—	—	1	20	—	1	64	6·5	—	—	1	2	5	—	4	12	1·2	189	20·1
Stepney	273,265	—	49	43	—	2	—	2	26	—	—	122	5·8	—	2	1	7	5	1	6	22	1·0	450	22·4
Poplar	160 222	—	47	20	—	3	—	2	13	2	—	87	7·1	—	—	—	1	3	—	7	11	0·9	237	19·1
South Districts.																								
Southwark	186,941	—	95	25	—	—	—	2	25	—	—	147	10·3	—	1	1	6	7	—	4	19	1·3	306	21·4
Bermondsey	124,213	—	53	23	—	—	—	—	4	1	—	81	8·5	—	4	2	3	—	—	2	11	1·2	218	22·8
Lambeth	296,724	—	146	29	—	6	—	1	16	—	—	198	8·7	—	2	1	2	1	2	4	12	0·5	410	17·6
Battersea	167,338	—	93	26	—	3	—	1	15	—	1	139	10·8	—	1	1	—	—	—	2	4	0·3	225	17·7
Wandsworth	333,998	—	89	45	—	10	—	1	21	—	—	166	6·4	—	1	2	1	2	2	7	15	0·6	363	14·1
Camberwell	262,020	—	131	34	—	3	—	2	19	—	—	189	9·4	—	3	3	2	1	1	3	13	0·6	388	19·1
Deptford	109,182	—	59	18	—	2	—	1	21	—	—	101	12·1	—	9	1	3	—	—	3	16	1·9	167	19·7
Greenwich	96,037	—	38	18	—	1	—	—	11	1	—	69	9·4	—	2	—	1	1	—	—	4	0·5	118	15·7
Lewisham	172,433	—	77	54	—	7	—	—	16	—	—	154	11·6	—	—	—	3	—	—	—	3	0·2	166	12·3
Woolwich	122,836	—	44	36	—	2	—	—	6	—	—	88	9·3	—	—	1	4	2	—	—	7	0·7	171	18·6
Port of London	—	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

† The death rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

diarrhœal diseases, 5 from measles, 2 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 1·2, while in the 16 Scotch towns it reached 1·7 per 1000. The deaths attributed to scarlet fever, which had been 2, 5, and 10 in the three preceding weeks, were 9 last week, of which 6 occurred in Belfast and 2 in Dublin. The deaths referred to whooping-cough, which had been 10, 7, and 6 in the three preceding weeks, rose to 9 last week, and included 6 in Belfast and 2 in Dublin. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 9, 6, and 7 in the three preceding weeks, were 8 last week, of which 5 were recorded in Dublin. The deaths attributed to measles, which had been 8, 3, and 8 in the three preceding weeks, fell to 5 last week, and were all registered in Dublin. The 2 deaths referred to diphtheria, which occurred in Dublin and Drogheda respectively, were slightly below the average in the earlier weeks of the quarter. The fatal cases of enteric fever were recorded in Dublin and Limerick respectively.

The deaths referred to diseases of the respiratory system, which had been 153, 157, and 132 in the three preceding weeks, further fell to 99 in the week under notice. Of the 437 deaths from all causes, 115, or 26 per cent., occurred in public institutions, and 7 resulted from various forms of violence. The causes of 28, or 6·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes last week did not exceed 0·6 per cent.

VITAL STATISTICS OF LONDON DURING JANUARY, 1914.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 8·3 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 10·4, 11·0, and 9·0 per 1000 respectively. The lowest rates last month were recorded in the City of Westminster, St. Marylebone, Hampstead, Stepney, and Wandsworth; and the highest rates in Islington, Southwark, Battersea, Deptford, and Lewisham. The prevalence of scarlet fever showed a considerable decline from the numbers recorded in other recent months; this disease was proportionally most prevalent last month in Fulham, Islington, the City of London, Southwark, Lambeth, Battersea, Camberwell, and Deptford. The Metropolitan Asylums Hospitals contained 3543 scarlet fever patients at the end of last month, against 3517, 4006, and 3810 at the end of the three preceding months; the weekly admissions averaged 400, against 512, 581, and 445 in the three preceding months. Diphtheria was slightly less prevalent than it had been in any of the three preceding months; the greatest proportional prevalence of this disease was recorded last month in Paddington, Stoke Newington, Hackney, Bermondsey, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1190, 1188, and 1099 at the end of the three preceding months, had further declined to 1092 at the end of last month; the weekly admissions averaged 153, against 184, 158, and 146 in the three preceding months. The prevalence of enteric fever was rather greater than it had been in December. Among the several metropolitan boroughs this disease was proportionally most prevalent in Fulham, Hampstead, Islington, Holborn, Finsbury, and Lewisham. There were 65 enteric fever patients under treatment in the Metropolitan Asylums Hopitals at the end of January, against 77, 72, and 51 at the end of the three preceding months; the weekly admissions averaged 14, against 12, 11, and 9 in the three preceding months. Erysipelas was proportionally most prevalent in St. Pancras, Hackney, Finsbury, Shoreditch, Bethnal Green, Deptford, and Greenwich. The 22 cases of puerperal fever notified during the month included 2 each in Hampstead, Islington, Stepney, Poplar, Southwark, and Camberwell. Of the 4 cases of cerebro-spinal meningitis, 2 belonged to Poplar, and the 3 cases of poliomyelitis belonged respectively to Hammersmith, Bethnal Green, and Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the population of the several boroughs. During the four weeks ending Jan. 31st the deaths of 6379 London residents were registered, equal to an annual rate of 18·4 per 1000; in the three preceding months the rates had been 13·7, 13·5, and 14·9 per 1000 respectively. The death-rates last month ranged from 12·3 in Lewisham, 14·1 in Wandsworth, 14·9 in Hampstead, 15·5 in Stoke Newington, and 15·7 in Greenwich, to 20·1 in Bethnal Green, 20·2 in Paddington, 21·4 in Southwark, 22·4 in Stepney, 22·7 in Shoreditch, 22·8 in Bermondsey, and 23·4 in Finsbury. The 6379 deaths from all causes included 250 which were referred to the principal infectious diseases; of these, 27 resulted from measles, 17 from scarlet fever, 51 from diphtheria, 53 from whooping-cough, 16 from enteric fever, and 86 from diarrhœa and enteritis among children under two years of age. No death from any of these diseases was recorded last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Hammersmith, Stoke Newington, Holborn, Battersea, and Lewisham; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. The 27 fatal cases of measles were 172 below the corrected average number in the corresponding period of the five preceding years; of these 27 cases 9 belonged to Deptford, 4 to Bermondsey, 3 to Camberwell, 2 to Stepney, 2 to Lambeth, and 2 to Greenwich. The 17 deaths from scarlet fever were 2 below the corrected average number, and included 3 in Camberwell and 2 each in Shoreditch, Bermondsey, and Wandsworth. The 51 fatal cases of diphtheria were 2 in excess of the corrected average number; the [illegible] mortality from this disease was recorded [illegible] y, Southwark, Bermondsey, [illegible] 53 deaths from whooping-cough were 38 fewer than the corrected average number; this disease was proportionally most fatal in Hampstead, Bethnal Green, and Southwark. The 16 deaths from enteric fever were equal to the corrected average number, and included 2 in Fulham, 2 in Islington, 2 in Hackney, 2 in Lambeth, and 2 in Wandsworth. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Deptford. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was 57·1 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Staff-Surgeon Arthur Sylvester Bradley has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated Feb. 11th, 1914).

In accordance with the provisions of His Majesty's Order in Council of August 8th, 1911, Surgeon Lionel Caldbeck Esmonde Murphy has been placed on the Retired List (dated Feb. 12th, 1914).

The under-mentioned Surgeons have been promoted to the rank of Staff-Surgeon in His Majesty's Fleet: Leonard Warren, Louis Leisler Greig, Ewen Cameron, Percy Frank Minett, Frederick George Goble, and Herbert Acland Browning (dated Feb. 10th, 1914).

The following appointments have been notified:—Fleet-Surgeons: W. E. Marshall to the *Duke of Edinburgh*, on re-commissioning; C. M. Beadnell to the *Shannon*, on re-commissioning; and H. Huskinson to the *Thunderer*. Staff-Surgeons: H. B. Hill to the *Highflyer*, and for Physical Training duties; P. T. Nicholls [illegible]; A. A. Forrester to the *Implacable*, [illegible] Edwards to the *Duke of Edinburgh*, on recommissioning; and E. F. Ellis to the *Alecto*, temporarily. Surgeons: C. V. Griffiths to the *Shannon*, on recommissioning; and R. M. Riggall to the *Pembroke*, additional, for disposal.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned gentlemen have been appointed Surgeons:—William Norman Pickles, Edward Philip Punch, and Robert Traill Brotchie (dated Feb. 12th, 1914).

ROYAL ARMY MEDICAL CORPS.

Major Henry N. Dunn to be Lieutenant-Colonel, vice M. O'D. Braddell, retired (dated Feb. 4th, 1914;

Captain Benjamin A. Odlum is seconded for service under the Colonial Office (dated Jan. 1st, 1914).

Colonel G. D. Hunter has taken up duty as Assistant Director of Medical Services to the Allahabad Brigade. Colonel M. W. Russell has been selected for appointment as Assistant Director of Medical Services to the Malta Command, in succession to Colonel R. Porter, placed on half pay.

Lieutenant-Colonel D. D. Shanahan has arrived home for duty from Ootacamund. *Lieutenant-Colonel* J. Girvin has *been appointed to hold charge of the* Military Hospital at the Curragh Camp. Lieutenant-Colonel J. M. F. Shine *has* been appointed to hold charge of the Military Hospital at [illegible] Thorpe has embarked for a tour of service in India. Major [illegible] the Military Hospital [illegible] Major E. S Clarke [illegible] Major E. P. Connolly [illegible] Director of Medical [illegible] Second (Rawal Pindi) [illegible] Army in India. Major H. D. Packer has been placed under orders to embark for a tour of service in India. Major E. W. Slayter has been appointed to the Irish Command Major G St C. Thom has been appointed to Glasgow. Major H. Herrick has been appointed for duty in the Belfast District. Major D. Lawson has [illegible] Major M. MacG. Rattray has joined [illegible] H. O'Reilly has been appointed [illegible] Division. Major P. S. O'Reilly has been appointed to the Irish Command. Major H. F G. Stallard has been appointed Deputy Director of Medical Services (Mobilisation Branch) to the Fifth (Mhow) Division of the Southern Army. Major B. Watts has arrived home for duty from the Military Hospital at Meerut Cantonment. Major J. W. West has [illegible] the Military Hospital at Mur[illegible]ment. Major B. F. Wingate has [illegible]

Captain W. B. Purdon has been appointed to the Irish Command. Captain R. C. Priest has been transferred from the Military Hospital at Lebong to Allahabad Cantonment Captain C. T. V. Benson has taken up duty at the Military Hospital, Madras. Captain W. E C. Lunn has been appointed to the Aldershot *Command.* Captain R. H. MacNichol has been selected for appointment as Specialist in Dermatology and Venereal Diseases at Malta. Captain C. G. Sherlock has been transferred from the Military Hospital at Dalhousie Cantonment to Lahore. Captain C. R. Millar has been appointed to the Irish Command. Captain E V. Vaughan has joined the Southern Command. Captain G. F Rudkin has been appointed to the Irish Command. Captain T. H. Gibbon has been selected for appointment as Clinical Pathologist to the Military Hospital [illegible] *absence from* Alexandria. Captain A. N. R. McNeill has [illegible] of duty. [illegible] Karachi [illegible] Captain [illegible] ommand [illegible] Captain A. G. Wells has joined at Ambala. Captain R. Rutherford has been appointed to the Western Command. Captain A. C H. Gray has been selected for appointment as Assistant Professor of Pathology and Bacteriology at the Royal Army Medical College, vice Major S L. Cummins Captain D. de C. O'Grady has arrived home for duty from India Captain A. H. Heslop has been appointed to the Aldershot Command. Captain H M. J Perry has been appointed to the London District for duty at the Military Hospital, Rochester-row. Captain T B Nicholls has arrived home on leave of absence from the Military Hospital at Cyprus Captain A. C Elliott has been appointed to the Eastern Command Captain J McKenzie has taken up duty at the Military Hospital, Calcutta Captain W. Mitchell has been appointed to the Western Command Captain M O. Wilson has been appointed for [illegible]*la*, leaving Karachi for [illegible] W. A. Spong has been [illegible] of absence home from [illegible] has been selected to [illegible] course of study of the Japanese language Captain J B Meldon has taken up duty at the Military Hospital, Gibraltar. Captain M. Keane has joined at Bulford Camp.

Lieutenant W L Webster has embarked for a tour of service in Egypt. Lieutenant H. C D. Rankin has been appointed for duty at the Cambridge Hospital. Lieutenant C. M. Finny has been transferred from the Military Hospital at Changli Gali, Murree Hills District, to Ambala Cantonment Lieutenant W. S R. Steven has taken up duty at [illegible]

[illegible] E. C. Deane, and A. S. Heale.

INDIAN MEDICAL SERVICE.

Colonel R. W. S. Lyons has been selected for appointment as President of the Bombay Medical Council, vice Surgeon-General H. W. Stevenson, resigned.

Lieutenant Colonel S. E Prall has been granted privilege leave of absence for two months Lieutenant-Colonel J. C. Hulbert has taken up duty as Civil Surgeon at Moradabad. Lieutenant Colonel S. H. Burnett has joined at Bombay. Lieutenant Colonel W. R. Edwards, C M.G., Bengal Presidency, has been appointed a First-class Agency Surgeon. Lieutenant-Colonel B. R. Chatterton has been granted privilege leave of absence for one month. Lieutenant-Colonel A. Buchanan, civil surgeon at Saugor, has been appointed to the executive and medical charge of Saugor Jail Lieutenant Colonel A W. Dawson has been granted an extension of service up to June 22nd next to complete 30 years' service for pension. Lieutenant Colonel R. H. Castor has been granted an extension of leave of absence home from India for six months on medical certificate.

Major N. R. J. Rainier, civil surgeon at Saugor, has been [illegible] three [illegible] d five [illegible] W. E. McKechnie has been granted privilege leave combined with furlough home from India for a total period of two years. Major L Adams-Williams has been placed under orders to embark for India. Major T. H. Delany, civil surgeon at Aaran, has been granted combined leave of absence home [illegible] Colonel J. D. Ogilvie Captain H. Crossle has been confirmed in the appointment of an Agency Surgeon of the Second Class to the Foreign Office of the Government of India. Captain N. M. Wilson, civil surgeon at Dehra Ghazi Khan, has been appointed Plague Medical Officer at Gurdaspur. Captain C. H. Brodribb has been selected for [illegible] Berkeley-Hill have been placed [illegible] of the Government of Bombay Presidency.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supernumerary Captain William M. Browne is restored to [illegible] onfirmed in their [illegible] W. Grellier.

TERRITORIAL FORCE.

Royal Engineers.

Wessex Divisional Engineers, Royal Engineers: Surgeon-Captain Edward G Stocker to be Surgeon Major (dated Jan. 12th, 1914)

Royal Army Medical Corps.

Major John Dunc[illegible]
Medical Corps, to be[illegible]
Services of a Territo[illegible]
Attached to Units o[illegible]
Roberts to be Major [illegible]
James Soutter resig[illegible]
mission to retain [illegible]
uniform (dated Feb [illegible]
[illegible] Somerville resigns
[illegible] iversity Contingent,
Captain Henry B.
[illegible] Territorial Force, to be Major (dated July 4th, 1913).

TAUNTON AND SOMERSET HOSPITAL.—At the recent annual meeting of the subscribers to the Taunton and Somerset Hospital the financial statement showed a favourable balance The committee has decided to carry out considerable structural alterations in the hospital in order to provide a new operating theatre and anæsthetic room, and also to improve the children's wards and provide shelter for the use of patients. The scheme has been [illegible], the Hon. Mrs. Portman [illegible] H. B. Portman £1000, and [illegible]

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 414.)

XXXVII.—LONDON: ORGANISATIONS FORMED TO COMBAT THE ACT.

WE have seen that from the Provisional Medical Committee, framed at the instigation of the British Medical Association, other organisations, notably the National Medical Guild, emerged. To the London Medical Committee, as well as to the National Medical Guild, I have already referred—it may seem very belated at this time to explain the constitution of these bodies, but without doing so what is happening cannot be understood. I have had the great advantage of the help of Dr. C. Buttar in writing the following description of a complicated situation.

When the Representative meeting of the British Medical Association on Jan. 18th, 1913, declared the pledge to be no longer binding on members of the medical profession, various bodies which had contended hitherto for one common object under a variety of titles adopted pronounced views in somewhat different directions. At the same time certain new bodies sprang up or were evolved from older associations. The nomenclature of these bodies has become rather confusing, so that it is well to attempt to reduce matters to some sort of order and to endeavour to explain the objects at which each aims. They are not all bodies having their origin in London or confining their working to London, though it is convenient to describe them while the working of the Act in London is under consideration. The following definitions would seem to be fairly correct:—

1. *State Sickness Insurance Committee.*—A committee of the British Medical Association originally appointed to deal with negotiations on matters connected with the Insurance Bill. The title has now been changed to—
2. *Insurance Act Committee.*
3. *Provisional Medical Committees.*—Formed at the instigation of the State Sickness Insurance Committee in each insurance area. They consisted of members of the British Medical Association and of non-members, elected at meetings open to the whole profession in each area. The meetings were organised through the divisions of the Association. It was intended that, in the event of the Act and Regulations being rendered acceptable to the profession, these committees should become—
4. *Statutory Medical Committees* under the Act.
5. *British Medical Reform Committee*, formed in London, but now extinct.
6. *National Medical Union*, formed in Manchester, and now the federating body for non-panel associations.

These two organisations originally voiced the dissatisfaction at the methods adopted by the British Medical Association in its negotiations with the Government during the passage of the Bill.

7. *Edinburgh Medical Guild.*—A local body of similar views to the National Medical Union, now one of the associations federated to that organisation.
8. *London Medical Committee.*—Taking its origin from the Provisional Medical Committee for the County of London. A fighting committee formed at the eleventh hour to resist the working of the Act in London.
9. *National Medical Guild.*—Registered by a subcommittee of the London Medical Committee under the Trade Union Acts for the purpose of resisting further encroachments on the liberty of the profession. Membership panel and non-panel.
10. *Leicester Medical Union.*—A local trade union. The only other medical trade union in existence in this country besides the National Medical Guild.
11. *Non-panel Medical League.*—Arose during the Representative Meeting at Brighton in July, 1913, for the purpose of federating non-panel associations throughout the country. The executive of this body was objected to by certain non-panel men because many of its members were connected with the Council of the British Medical Association and other organisations. The Non-panel Medical League is now in a state of suspended animation in order to leave the field open to the National Medical Union which has taken on the function of coördinating non-panel views.
12. *Non-panel Committee of the British Medical Association.*—A recently formed committee with the object of focussing the views of non-panel members of the Association, and counterbalancing the proceedings of the Insurance Act Committee now concerned chiefly with panel questions.

This list leaves out of count the numerous local non-panel associations which exist throughout the country, the National Insurance Practitioners' Associations, and any other purely panel organisations which may exist, and also the Panel Committees formed under the Amending Act of 1913.

The present article deals chiefly with the formation and later development of the London Medical Committee, whose name and constitution have been considered by some to be quite irregular, but whose actions at all events were strenuous and virile.

Towards the end of 1912 the only way in which the British Medical Association showed any appreciation of the near approach of the actual working of medical benefit was in the suggestion made by the State Sickness Insurance Committee that a provisional medical committee should be formed in each insurance area. These committees had to be accessible, of course, to the entire profession, and not merely to the members of the British Medical Association. The suggested formation of these committees savoured a good deal of the pliable policy displayed throughout by the Council of the Association; but it was intended that they should become statutory committees *only in the event of the Act and regulations being rendered acceptable to the profession.* In the majority of insurance areas throughout the country these provisional medical committees were elected, consisting of members of the Association and of non-members; of practitioners in favour of the Act and of practitioners against it; and there is no doubt that they were extremely good and representative committees. After their formation these committees in many instances went to sleep; and the State Sickness Insurance Committee retired just before Christmas, 1912, to take a rest of two or three weeks, apparently quite oblivious of the fact that medical benefit would come into force on Jan. 15th, and that the profession had received no direction whatever how to meet the emergency.

The Provisional Medical Committee for the County of London was thoroughly representative. It was chosen according to borough areas, care being taken that every borough should have a representative, though the election itself was carried out through the divisions of the Association. The committee included consultants and members of hospital staffs, general practitioners of every shade of opinion, Poor-law medical officers, men who were in favour of the Act, practitioners in industrial areas who were strongly opposed to the Act, and men who never under any consideration whatever would find it necessary to go on the panel. Non-members of the British Medical Association were duly represented. Two days after Christmas the committee met for the first time, and it was plain from the outset that the temper of the great majority was strongly opposed to the working of the Act. It was from the uncompromising attitude of the great majority of the members of the Provisional Medical Committee for London that one of the most dramatic features of the struggle against the Insurance Act took its origin; for almost from the outset, and nearly three weeks before the pledge was removed b [illegible] Jan. 18th, the [illegible] formed itself in[illegible] Exception has been taken to this name as likely to be confused with the Statutory Medical Committee for the County of London, which even at the present moment is non-existent. But the representative character of the London Medical Committee at the time of its inception justified the use of this name, and it is claimed that the resulting inconvenience could not have been foretold.

The process of formation of the London Medical Committee may be described as follows. In the first place, the Provisional Medical Committee more or less retired into the background until it might happen to be needed. Next two or three members of the original committee who chanced to be supporters of the Act sent in their resignations, a course followed by a few other members. Then the new committee was, very early in its existence, strengthened by the addition of members of the Council of the British Medical Association, who represented the Metropolitan Counties Branch. At that time—three weeks before medical benefit came into force—the vast majority of London practitioners was strongly opposed to the Act, and gladly supported an organisation which looked like showing courage in the time of need.

One of the first acts of the London Medical Committee was to summon by telegram the State Sickness Insurance Committee, who appeared to be inclined at first to resent the activity urged upon them. For the wish of the London Medical Committee was to extend to the provinces the campaign suggested for London, and to endeavour even at the eleventh hour to induce the British Medical Association to take prominent action. After much debate the State Sickness Insurance Committee declined to take part in the campaign, but agreed to give its approval to the London Medical Committee opening offices and carrying on its propaganda from the headquarters of the Association.

It is asserted by some that the London Medical Committee had no legal existence, that it was a revolutionary committee, that it was there to resist the law. At any rate, it was the only body which made a determined effort to carry out the expressed desires of Representative Meeting after Representative Meeting of the British Medical Association, and of the majority of the medical profession so far as they were ascertainable at that time. And inasmuch as those who had authority did little or nothing, no one questioned those who did something, even though they had not authority.

The London Medical Committee soon began to make its mark. It met frequently, and its leaders spent nearly all their time at the offices at 429, Strand, organising and carrying on the business of the committee. The newspapers were filled with its doings or with information supplied by the committee. It urged the full application of Section 15 (3) of the Act, permitting insured persons to make their own arrangements. It held meetings of insured persons all over London, at which resolutions were passed with very little opposition demanding the right to contract out with the insured person's own doctor. The hoardings were placarded with posters and handbills were distributed; and as a result an enormous number of petitions were received by the London Insurance Committee from insured persons asking to be allowed to make their own arrangements for medical attendance.

The achievements of the committee soon began to be discussed in the House of Commons. Mr. Worthington Evans voiced their cause in the House by protesting that the authorities had interfered with the free choice of doctor, had prevented private arrangements being concluded, and had made "threats" to send men where doctors refused to serve on the panel and impose these strangers on the insured. Such threats had "poisoned the whole administration of the Act." Dr. C. Addison, taking the other side, described the London Medical Committee as "hot heads" who ignored the interests of the insured, prevented doctors from going on the panel, and had "set every public authority in the country against them." The greatest testimonial ever received by the London Medical Committee was probably when Dr. Addison stated that had it not been for that committee there would have been 1000 more practitioners on the London panel. Mr. Lloyd George spoke of doctors who put forward a "wild-cat" scheme. Thus it will be seen that the London Medical Committee early contrived to get excellent advertisement.

The committee organised several subcommittees to deal with different portions of its work; it gave a great deal of information and assistance to medical men in London; and it was responsible for a successful and well-arranged meeting in the Queen's Hall, under the chairmanship of Sir Thomas Crosby.

One of the subcommittees of the London Medical Committee was appointed for the purpose of considering the formation of a trade union. It was recognised that the constitution of the British Medical Association renders it unable to grapple successfully with emergencies as they arise, while the impossibility of setting its funds free from liability to attachment prevents any of its schemes for the formation of a special fund ever being established on a safe footing. When the actual fight was over many of the active participants turned their attention to the development of the National Medical Guild. Formed in March, 1913, by the members of the subcommittee, the guild was registered in July on the application of the 12 original members of its council. Originally the whole of the members of the subcommittee were non-panel men; but it was recognised that in any future fight that may occur no sectional body will have any chance of success, and that a trade union must contain within its ranks the majority of medical practitioners. Meanwhile, as this went on, and the strenuous fighting of early days became no longer possible, a divergence of opinion became apparent amongst the members of the London Medical Committee. This was a perfectly natural result when the cohesive effect of the first enthusiasm began to lose its power. The divergent lines of thought were represented on the one hand by those who considered that the ultimate success of the profession consists in an all-inclusive trade union under strong central management, and on the other by those who believed that united action by non-panel men in maintaining the old world view of the dignity of medical practice would sufficiently impress both the Government and the public to bring about a reversal of the system adopted under the Insurance Act. The former party is now represented by the National Medical Guild, the latter by the purely non-panel association the National Medical Union. To the latter what remains of the London Medical Committee is now federated; but inasmuch as local non-panel associations now exist in many parts of London, it is hardly likely that the London Medical Committee, somewhat changed in character, and possibly becoming superfluous, will prolong its activities for any length of time.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

NEWCASTLE-ON-TYNE.

College of Medicine, Newcastle-on-Tyne.

THE annual meeting of the University of Durham College of Medicine was held on Feb. 11th in the college, Councillor W. J. Sanderson, chairman of the board of governors, presiding. Sir George Hare Philipson was unanimously re-elected vice-chairman of the governors, and Professor Rutherford Morison and Mr. Herbert Shaw (the Sheriff of Newcastle) were elected as representatives on the council of the college. The various reports were adopted. The finances showed that the receipts for the year amounted to £9518 and that the deficiency had been reduced by £189. The treasurer of the college, Mr. Cecil Cochrane, referred to the handsome legacy of £10,000 bequeathed to the college by the late Miss Easton, which would enable the authorities to free the college from the incubus in the way of mortgages on land and buildings under which it had laboured for many years. It was announced that arrangements had been made during the past year with the honorary medical and surgical staff of the Royal Victoria Infirmary, Newcastle-on-Tyne, regarding the clinical portion of the students' curriculum, and that the settlement had received the sanction of the Board of Education. The chief results of these arrangements were: (1) that the fees for clinical teaching are paid to the college, and the college is responsible for the payment of the clinical teachers; and (2) that the clinical teachers will elect two of their members to act on the college council.

Hospital Accommodation of Newcastle.

On Jan. 28th the Lord Mayor of Newcastle opened the first block of a new infirmary attached to the workhouse and formally handed over the building to the chairman of the board (Mr. Lonsdale). The latter stated that the whole scheme would consist of six blocks similar to that which was being opened, and would have nearly a thousand beds and an administrative block. The block which was opened is erected just north of the present workhouse buildings and faces south. The total accommodation provided is for 154 patients. It is built in two floors, the lower of which is to be used for general cases, while the second floor is for the treatment of incipient cases of phthisis. The total cost of the block is £21,587, including furnishings, which thus works out at about £133 per bed. The chairman of the board dealt with the hospital accommodation in Newcastle and district, and quoted the remarks of a Local Government Board inspector as to the excellent position which Newcastle occupied in comparison with other great cities. There are in Newcastle 19 hospitals, in addition to private hospitals and dispensaries, with accommodation for 2750 beds, which is approximately 1 per cent. of the population. Thirteen of these with 800 beds are supported by voluntary contributions; two with 150 beds are private institutions; two hospitals with 340 beds are maintained out of city rates; one with 900 beds is supported, eight-ninths out of poor rate, one-ninth out of city rate; and one hospital is maintained solely from the poor rate. Between £40,000 and £50,000 per year are paid out of the poor rate for the care and treatment of the sick poor in hospitals; and yet all this accommodation in and around Newcastle is far from sufficient to meet the needs. The Royal Victoria Infirmary, built only a few years ago, has been found to be too small, and the house committee are seriously contemplating great extensions. At the Infectious Hospital some £12,000 are shortly to be expended in providing more accommodation. At the Mental Hospital at Coxlodge further extensions are in operation which will cost about £25,000. The chairman concluded with a reference to the great increase made in the medical and nursing staffs during the last few years.

Feb. 17th.

WALES AND WESTERN COUNTIES.

Tuberculosis Scheme for Pembrokeshire.

EXCLUDING Pembrokeshire, all the county councils and county borough councils in Wales and Monmouthshire have handed over the administration of sanatorium benefit under the National Insurance Act to the Welsh National Memorial Association, the councils contributing to the funds of the association sums equal to a rate of ½*d.* in the £ in the respective districts. The Pembrokeshire county council, however, at its meeting on Feb. 3rd resolved, on the recommendation of the public health and housing committee, by 31 votes to 13, to submit to the Insurance Commissioners for Wales a separate scheme. The scheme contemplates the erection of a temporary hospital to accommodate 18 patients at a capital cost of £1700, the establishment of a central dispensary at Haverfordwest, and also of branch dispensaries at Cardigan, St. David's, Fishguard, Tenby, and Pembroke Dock, with five shelters for loan to patients; the administrative work to be carried out by the county medical officer of health with an assistant tuberculosis officer, who will be paid a salary. The estimated total cost of the scheme is £3303 per annum, which, when reduced by grants from the Insurance Committee, boards of guardians, and the Treasury, will amount to £1152, a sum about equal to a rate of ¾*d.* in the £ on the rateable value of the administrative county.

Cardiff Medical School.

The Cardiff Medical School has hitherto been housed in the old infirmary buildings in Newport-road, with the addition from time to time of various one-storey iron or wood annexes. This arrangement of the school buildings is far from what could be desired, though the teaching staff has readily submitted to the difficulties in anticipation of the erection of more complete buildings adjoining those of the University in Cathays Park. The complete scheme of the University buildings included medical school buildings, but lack of funds has hitherto stood in the way. In 1912, however, Sir James

Thomas offered to give 10,000 guineas towards the erection of a physiological department Eventually he increased this sum, provided the medical school buildings were erected on the site of the existing school, which has an area of nearly three acres and is quite close to the Cardiff Hospital The total cost of the new buildings is estimated at £90,000, and of this sum one third has been promised by Sir James Thomas and the remainder by an anonymous donor When the new buildings are completed a complete medical school in which the full five years curriculum can be taken will be available The clinical material in Cardiff is very varied, and is provided in the wards of the King Edward VII 's Hospital, the Seamen's Hospital, the Isolation Hospital, the Mental Hospital, and the Tuberculosis Sanatorium A deputation consisting of Lord Kenyon, Lord Merthyr, Colonel E M Bruce Vaughan, Dr Ewen J Maclean Sir Almroth Wright, and Professor D Hepburn, and introduced by Mr David Davies, M.P , to urge a Treasury grant for the maintenance of the school, was sympathetically received by the Chancellor of the Exchequer on Feb 12th

Welsh National Memorial Sanatorium

The Welsh National Memorial Association has already taken over one sanatorium in South Wales and another small one in North Wales It is the intention of the association to erect at least three other institutions, one in the north, one in the south, and the other in mid Wales That in South Wales is to be erected on a site of nearly 400 acres and will accommodate 250 adults and 54 children

Decrease of Vaccination in the West of England

At the last meeting of the St Thomas s (Devon) board of guardians it was shown that during the last six months 350 successful vaccinations had been performed and 142 conscientious exemptions granted, as compared with 420 vaccinations and 109 exemptions for the preceding six months Some of the members "deplored such an increase of exemptions

A Useful Charity

During 1913 13 patients in the last stage of illness were admitted to the Einsborough House Exeter The number of weeks spent in the home by these 13 patients was 397 at an average expenditure of 19*s* per patient The financial statement showed a small deficit It is hoped, through the generosity of Mrs Godfrey Walker, to purchase larger premises so as to admit 20 patients

Need of Isolation Hospitals in Cornwall

The medical officer of health for Liskeard, Cornwall, Mr W Nettle in his annual report for 1913 states that the provision of an isolation hospital for infectious diseases is urgently required The need of an isolation hospital is also urged by the medical officer of health for St Austell rural district council in his annual report

Feb 17th

IRELAND

Dinner of the Royal College of Surgeons

ON Feb 11th the Charter Day dinner of the Royal College of Surgeons of Ireland was held, the President, Mr R D Purefoy, being in the chair The Lord Lieutenant of Ireland accepted the invitation of the College to be present There was an exceptionally large attendance of Fellows and guests Speeches were made by the Lord Lieutenant, the President, the Vice President (Mr F Conway Dwyer), the Master of the Rolls, Dr. James Little, the Rev J P Mahaffy, and Sir Charles A Cameron At the close of the dinner the Lord Lieutenant on behalf of the Council, presented the President with a silver tray as a mark of recognition of the way in which he had performed the duties of his office At the same time he asked the President to accept for his sister, Miss Purefoy, a handsome pendant

The Rotunda Hospital

At the last meeting of the board of governors of the Rotunda Hospital Dr T P C Kirkpatrick was elected a governor in recognition of his eminent services to the hospital in writing its history[1] In the ordinary way governors are elected from those who have given to the funds of the hospital a sum of not less than £100, and it is very rarely that the board has exercised its power of electing a governor in recognition of "eminent services to the hospital "

The Friendly Societies in Limerick

For the past 15 months there has been a dispute between the medical profession of Limerick and the Friendly Societies operating there The medical men in the autumn of 1912 gave notice to terminate their agreements for medical attendance on members of Friendly Societies and their families At the same time they stated that they would be willing to give attendance at the rate of 8*s* 6*d* per member for attendance on the member alone or 12*s* for attendance on the member and his dependents The societies refused to accept these terms, and for more than a year it was found impossible to make any arrangement The societies have now capitulated, accepting the terms offered by the profession, and reappointing their former medical officers The medical men of Limerick are to be congratulated on the courage and determination with which they have stood together

Old age Pensions in Ireland

The following figures show the number of old age pensioners on March 31st, 1913, in the three kingdoms —

Country	Population 1911		Number of old age pensioners		Proportion of pensioners to 1000 of population
England and Wales	36 070 492	...	668 646	. .	18 5
Scotland	4,760 904	. .	96 239	. .	20 2
Ireland .	4 390 219	...	203 036	...	46 2
Total	45 221 615		967,921		21 4

In other words it appears that while in 1911 the population of Ireland was more than 370 000 less than that of Scotland Ireland on March 31st, 1913, had 106 800 more old age pensioners The average number of old age pensioners in the administrative counties of Ireland was 51 92 per 1000 of the population, ranging from 20 19 in Dublin County, to 70 02 in Leitrim County The population of Ulster was (in 1911) 1 581 696 the total number of old age pensioners 70 657, and the proportion to population 44 7 per 1000 With the exception of Dublin County (which is largely residential) Belfast City has the smallest number of old age pensioners in proportion to population of any scheduled area in Ireland

The Cottage Hospital, Coleraine

A two days' bazaar, having for its object the raising of £1000 or more to clear off an old debt and to defray the cost of recent renovations to the Cottage Hospital, Coleraine, was opened by Lady

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[1] THE LANCET Feb 14th 1914 p 470

O'Neill in Coleraine on Feb. 11th. The effort is being warmly supported by all creeds and classes living in North Antrim and North and South Derry.

Poliomyelitis in Fermanagh.

Mr. Acheson Aiken, medical officer of Irvinestown dispensary district, co. Fermanagh, has reported a serious outbreak of poliomyelitis in his district, there being 12 cases under treatment. The onset of the disease in those affected was very sudden No cause for the outbreak can be given.

Feb. 17th.

PARIS.

Military Service and the Deaf.

Dr. Maurice, in a communication to the Société Médicale des Praticiens, calls attention to the serious losses sustained in recruiting for the army through the rejection of the deaf. According to the statistics of the Ministry for War 921 recruits are lost on account of deafness—viz., 510 exempt, 296 transferred to auxiliary service, and 115 rejected. The total deficit of the three classes means a total loss in the three years of service of 2763 young men, who but for their infirmity would form a fine regiment. Dr. Maurice's method of auditory re-education consists in subjecting the ear to the recurrence of sounds whose pitch, intensity, and timbre have been studiously selected for this end. The ear is educated to hear sounds varying from 80 to 5500 vibrations a second, a range adequate to include all the vibrations that the human larynx can emit. Very satisfactory results have thus been obtained. The disappearance of the tympanum and the ossicles is often compatible with a sufficient audition for military requirements. It would not be necessary to establish a special regiment with specialist medical officers in order to be able to enlist the deaf; it would suffice to begin by treating at the military school of Val de Grâce the 115 soldiers suffering from deafness who at the present time are actually enlisted yearly, kept awhile under observation, and finally discharged for physical incapacity. As these men are not infirm in the ordinary sense of the word, they could be made to work. Re-education could cure, or at any rate considerably ameliorate, their condition in from 25 to 60 days. If this plan proved successful the 510 exempts need no more be returned to their homes, for deafness would be no longer a cause for rejection. Formerly those with hernia were rejected wholesale. Now they are enlisted. It is true they cannot be compelled to submit to operation, but they have either to undergo service as they are, or to be operated on; and the suffering leads them to submit to an operation which can hardly be considered dangerous. The deaf would be subject only to the same lot; indeed, their position would be even better, since in their case there is usually no question of operation.

A Proposed Ministry of Public Health.

The serious discussions in regard to leprosy which are taking place at present between the medical profession and the public health authorities have drawn attention to the question of centralising in a single service, with the title of Ministry of Public Health, all the departments dealing with hygiene, which are now scattered among different ministerial departments under conditions that materially impede their working. Hygienic functions, in point of fact, are to be found being discharged by most of the Ministries. The Ministry of the Interior controls matters relating to the Assistance Publique, the hospitals, the prevention of epidemics, and the hygienic staff. The hygiene of emigrants is under the Ministry of Commerce. Adulteration and food hygiene are controlled by the Ministry of Finance. Medical congresses are under the Ministry of Public Instruction. Legal medicine is controlled by the Ministry of Justice. Epizootics and the prevention of diseases transmissible by animals, such as glanders and anthrax, come under the Ministry of Agriculture; while international sanitary regulations are in the province of the Ministry of Foreign Affairs, not to mention the special sanitary organisations established by the Army, Navy, and Colonial Departments. Some years ago Senator Strauss showed the necessity for uniting all the organisations into one service. M. Mirman has now advocated this redistribution of the services, which would entail no new expense, but simply a closer centralisation. Not all medical men favour this plan, however, for many think it would result in an officialisation of medicine, which would materially hamper the independence of the profession.

The Electrical Conductivity of Blood Serum.

Professor Widal and his assistant, Dr. Javal, whose work in regard to chloride and nitrogen retention is well known, have brought before the Académie des Sciences a mode of estimating the chloride retention in blood serum and organic fluids. This method, added to chemical analysis and cryoscopy, gives valuable information on the variation of chlorides in different subjects and in the same subject, or in the course of the same disease. The method of electrical resistance makes it possible to determine variations of great importance amounting to as much sometimes as a gramme to the litre. The method can be very easily and rapidly practised.

Death of M. Bertillon.

The death of M. Bertillon from anæmia occurred at Paris on Feb. 13th. M. Bertillon, though not a medical man, was the son, grandson, and brother of medical men, and his own studies in the use of anthropometry as a means of identifying criminals closely allied him to medicine. He was born in Paris in 1853, and was head of the identification department in the Prefecture of Police of Paris.

Feb. 16th.

VIENNA.

Public Health Statistics for December, 1914.

THE exceptionally warm and dry weather which prevailed in this city during the last month of 1913 is acknowledged to have been the cause of a very favourable condition of the public health, as observed in the report of the Board of Health. During this month 2320 persons died, being a mortality-rate of 13 per 1000 inhabitants, and there were 2690 births of living children, with 280 still-births. There was not a single fatal case of typhoid fever, cholera, or measles, but there were 20 deaths due to scarlet fever, 17 to whooping-cough, 28 to diphtheria, 406 to tuberculosis, 4 to erysipelas, and 216 to neoplasmata. An isolated outbreak of small-pox which occurred in January is mentioned in a separate paragraph. The following cases of disease were reported under the Notification of Infectious Diseases Act. Puerperal fever, 4; scarlet fever, 250; diphtheria, 251; trachoma, 4; epidemic poliomyelitis, 1; influenza, 2; and typhoid fever, 3. The month was characterised by an absence of severe pulmonary and bronchial diseases and a marked decline in the infant mortality, whilst the duration of sunshine observed in Vienna was 109 hours, an amount far in excess of the average figure.

Small-pox in Vienna.

Small-pox, that former scourge of Europe, is so uncommon in this city that much interest has been aroused by the recent appearance of six isolated cases. A few weeks ago a man engaged in the delivery of bread to customers' houses became ill, and as the nature of his disease was not recognised at once he was permitted to follow his occupation, although mature pustules were visible on his face. When the diagnosis of small-pox was eventually made he had already infected his wife and his son, a boy of 4 years of age. Three other persons were also attacked, but owing to the very complete prophylactic and disinfectant precautions taken by the authorities of the Board of Health the outbreak was suppressed. The boy mentioned above died from angina, complicated with cardiac paralysis. The fact that the older patient could walk about without trouble, and that his illness was not recognised at first, is a proof how rare, and therefore how comparatively unknown, small-pox is now in this country. It is chiefly due to the extensive vaccination of the people which has reached a very high degree here. Although there is no actual compulsion for the general population, candidates for nearly all appointments, both public and private, as well as for municipal or State service, have to be vaccinated, and it may be safely said that in Vienna over 99 per cent. of the population have been vaccinated at least once. When there was a small-pox scare a few years ago it was found that those who had for some reason or other neglected this precaution were very willing to have the operation performed notwithstanding the slight interference with their general health.

Alteration of the Height Standard for the Austro-Hungarian Army and Navy.

Under the new law recruits for the Austro-Hungarian army and navy must have a height of at least 152 centimetres (5 feet), whilst those recruits who will have to work as artisans or at some trade in the army or navy, or as clerks in offices, may be accepted if their height is not less than 150 centimetres (4 feet 11 inches). The old law required a minimum height of 5 feet 1 inch for ordinary soldiers or sailors, whilst the artisans or tradesmen could be recruited without any regard being paid to their height. This departure from the old standard has been introduced on account of the necessity for obtaining a larger number of soldiers fit for work and service under the increased military precautions which have been taken in this country during the last 12 months. It has been noted that a considerable percentage of recruits had to be rejected, especially among those coming from certain poor districts, where the people are underfed, owing to the height-limit not being reached, although otherwise they were quite fit for service and willing to become soldiers. At present not even 1 per cent. of our population is required for military service in time of peace, whilst in other countries—such as Germany, France, and Italy—over 1·5 per cent. have to serve annually with the colours. It may be noted that the Austrian standard is higher than the French one, which goes below the 150 centimetres.

Feb 16th.

INDIA.

The All-India Sanitary Conference.

THE provisional programme of the All-India Sanitary Conference at Lucknow shows that the members will have a very busy time. On the first day there will be the opening address by Sir H. Butler. Papers on milk standards and the milk trade will be furnished by several medical men, and municipal drainage will be discussed. The early morning of the second day will be devoted to an inspection of the sanitation and improvements of Lucknow, and after breakfast there will be the opening address in the Research Section by Sir C. P. Lukis, Director-General, Indian Medical Service, the remainder of the day being given over to papers on malaria by Lieutenant Doctor Froilano de Mello (of Goa), Sir Ronald Ross, Major S. R. Christophers, Major E. L. Perry, Major J. L. Marjoribanks, Dr. W. R. Macdonald, and Dr. C. A. Bentley. In the evening there will be popular lectures on goitre by Major R. McCarrison and on malaria by Major Christophers. On the 21st reports on town planning and papers on mosquitoes and kala-azar will be communicated. On the 22nd there will be a visit of inspection to Benares, and the 23rd will be devoted to infantile mortality, notification of disease, tuberculosis, water-supply, rural sanitation, the medical inspection of schools, and the teaching of hygiene. On the 24th certain phases of plague infection will be discussed by Captain J. C. G. Kunhardt, Colonel S. Browning Smith, Major W. Glen Liston, and Captain Taylor, and vital statistics by Dr. Bentley and Captain T. C. McC. Young. On the 26th notes will be read on the bacteriology of water by Dr. Hirst, and on the filtration of water by Mr. Hutton and Captain J. Morison. On the 27th the resolutions of the conference will be considered and passed.

Women's Medical Service for India.

The following *communiqué* has been issued by the office of the Central Committee, Countess of Dufferin's Fund:—

> *Women's Medical Service for India.*—The lady doctors whose names have been recently published as having been selected for the Women's Medical Service for India have been chosen by the lady President, Her Excellency Lady Hardinge, and the Central Committee of the Dufferin Fund, either on account of their previous good services under the Dufferin Fund, or of their special qualifications and testimonials. This women service is fixed at a maximum of 25 ladies. Of the 24 at present selected, 18 are Europeans or Anglo-Indians and 6 are Indians. Two of these latter, however, have since intimated their inability to join the service.

It will be noticed that it has been found unnecessary at the outset to recruit directly from England for the first appointments to the service, and judging from the number of applications received, and the increasing supply of medical women in India, it seems likely that the appointments will generally be made from among ladies in this country.

Obituary.

THEODORE MAXWELL, B.A., M.D. CANTAB., B.SC. LOND., F.R.C.S. EDIN., D.P.H., F.C.S.

WE regret to record the death early on the morning of Feb. 13th, after a short illness, of Dr. Theodore Maxwell, for many years a valued contributor to the columns of THE LANCET.

Theodore Maxwell was born at Barnsley, Yorks, on March 29th, 1847. His parents were the Rev. Edward Maxwell, M.A., and Mary Hogg Nicholson Maxwell, sister of General John Nicholson, who was killed at Delhi in 1857. He received his early education at Felstead School and privately at Enfield and Blackheath. He then entered at University College, London, where he took the gold medal for chemistry. In October, 1866, he went to King's College, Cambridge, and whilst in residence there he obtained the B.Sc. degree of the University of London. In 1870 he graduated B.A. with honours in the Natural Science tripos at Cambridge, and took the M.B. degree two years later, proceeding to the doctorate in 1876. In 1873 he obtained the Fellowship of the Royal College of Surgeons of Edinburgh.

During the Franco-Prussian war Maxwell joined the Belgian ambulance detachment and was in Sedan the day after the battle. He and a fellow medical student escorted a French lady to her home in Orleans during the war, and he wrote a series of letters which was printed in various papers.

During 1873 he was attached to the Edinburgh Medical Mission until September, when he married Elizabeth Eyre Ashby, daughter of the late Dr. J. E. Ashby, of Enfield, at whose school he had been as a boy. He and his wife immediately sailed for India. In the following April they went to Kashmir, where he hoped to build a hospital and act as a medical missionary. The Maharajah of Kashmir gave him a piece of land for the hospital in the town of Srinagar, and Dr. Maxwell performed a large number of eye and other operations in Srinagar. But in the autumn of 1875 his health broke down, and he was ordered to England and forbidden to return. For three years he practised at Hanwell. In 1879 he and Mrs. Maxwell went to Vienna, where he studied special subjects at the Kinia Hospital under Professor Schröter and others. He then returned to England and began practice in Woolwich, where he at once identified himself with many sides of public life. He worked hard at creating an interest in missions in Woolwich, and established and was president of the Woolwich, Charlton, and Plumstead Missionary Association. He became lay reader for the diocese, and attended the ruridecanal meetings. He was a constant attendant at St. John's Church, Woolwich, to which he gave an organ. After his retirement from practice in 1908 he took up amateur typography, and devoted himself to printing Scripture texts, &c., in Hebrew, Servian, Bulgarian, and other languages. His enthusiasm may be judged from the fact that he sent out over 10,000 Christmas cards with texts for distribution amongst the troops engaged in the Balkan war.

Dr. Maxwell will be remembered by all who came in touch with him as a man of singularly high character—zealous, learned, and industrious. His chief literary work was typical of his mind and disposition. This was the "Terminologia Medica Polyglotta: a Concise International Dictionary of Medical Terms," published in 1890, which set out by an ingenious device the medical synonyms of seven European languages within a compass of 460 pages.

EDWARD SKINNER, M.R.C.S. ENG., L.R.C.P. EDIN., L.S.A.,

LECTURER ON OSTEOLOGY IN THE UNIVERSITY OF SHEFFIELD.

IN the death of Mr. Edward Skinner, on Feb. 11th, the medical profession of Sheffield loses a familiar figure and a respected colleague. His family has for many years been associated locally with things medical, his father and elder brother, both of whom predeceased him, having been medical men. For over 40 years Mr. Skinner was actively engaged in a large general practice, but in spite of the heavy calls which this involved he took a deep and practical interest in the School of Medicine at a time when such help was sorely needed. It was in the "seventies" that he became lecturer on anatomy, a post which his father had held before him, and from then up to 1897, when with the foundation of the University College a chair of anatomy was formed, he rendered invaluable services. He also held the Government licence for practical anatomy, involving a great deal of responsible and often anxious work in connexion with the obtaining of subjects for dissection. From then onwards, until shortly before his death, he continued his active connexion with the anatomical department of University College, and later of the University, as lecturer on osteology. Nor was his interest in the Medical School confined to teaching; he was a regular attendant at all meetings connected with the management of its affairs. Of a peculiarly unselfish, contented, and gentle disposition, he will be greatly missed by a large circle of patients and personal friends, and many of the poorer classes lose in him one who performed many charitable acts in the course of his daily work. Owing to failing health he was compelled to retire from practice for a few years before his death. He leaves three sons, one of whom, Dr. E. F. Skinner, is dermatologist to the Royal Hospital, Sheffield, whilst another, Mr. W. F. Skinner, succeeds his father and his grandfather in the medical practice.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At an ordinary meeting of the society at 11, Chandos-street, Cavendish-square, London, W., this evening (Friday), at 8.30 P.M., a paper on Recent Research relating to Mediterranean Fever will be read by Fleet-Surgeon P. W. Bassett-Smith, who will also show specimens illustrating Barton's bodies and the other blood changes in Oroya fever.

ROYAL MATERNITY CHARITY OF LONDON.—The report of this charity for the year 1913 shows that of 855 cases delivered there was only one death. The number of infants born was 879, which includes 24 twin cases. Of infant deaths there were 12, and stillbirths 29. The ages of the mothers ranged from 18 to 48. The number of cases attended shows a reduction as compared with previous years, which the report points out is directly attributable to the National Insurance Act, though it is gratifying to note that the lesser number attended consisted of more deserving cases—viz., those left outside the maternity benefits accorded to those in employment. "This is one of the anomalies of the Act, that those *in* employment, with stamped cards, receive the maternity benefit of 30*s*., whilst those *out* of employment, casual labourers' wives, street hawkers, and such like, get no aid from the State, and still have to look to this and similar institutions to help them through their time of trouble." The balance sheet indicates that there is a sum of £4429 due to the bank. The address of the society is 31, Finsbury-square, London, E.C.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF INCIPIENT AND UNCONFIRMED INSANITY.

To the Editor of THE LANCET.

SIR,—In your leading article on this subject in THE LANCET of Feb. 7th I fear that you have unintentionally misinterpreted the position taken up by Dr. Hubert Bond. I did not understand Dr. Bond to express antagonism to the proposed change, but only to point out the difficulties in carrying out the proposed treatment arising from the existing state of the law.

The clauses providing for treatment without certificates, introduced by the late Lord Chancellor in his Lunacy Bills (1900 *et seq.*), had certainly been submitted to and received the approval of the Lunacy Commission, and that favourable view of the subject I feel sure has not varied during the past ten years.

The Commissioners from their official position cannot themselves enter into a discussion of this kind, and I trust, therefore, that you will kindly allow me this small space to point out a misapprehension which I am assured that you, Sir, would be the first to wish to remove.

I am, Sir, yours faithfully,

Feb. 16th, 1914. HENRY RAYNER.

⁂ Our leading article said that Dr. Hubert Bond declined to accept the proposition that modification of the law was desirable or that an immediate alteration upon the lines proposed was an essential condition of reform. Our attention has been called to the following passage in Dr. Bond's paper, which sufficiently shows that we were in error as to Dr. Bond's views:—

> It therefore becomes our duty, as practical men and women, to collaborate with the object of ascertaining how far we may seek to remove those legal formalities which, in the eyes of relatives of patients, rightly or wrongly, spell publicity and stigma, but without endangering the real interests of the patients or public safety. ...... Nevertheless, I am strongly of opinion that, if we are ever to secure promptness in treatment and an abolition of methods we all deplore, legislation is both desirable and necessary, as well with a view to the removal of some of the obnoxious formalities as in deference to the sentiments of relatives and those of the patients themselves.

We publish Dr. Rayner's letter and this acknowledgment of our misconception with pleasure —ED. L.

THE DEPENDENCE OF LEPROSY ON FISH EATING.

To the Editor of THE LANCET.

SIR,—In an annotation contained in THE LANCET of Dec. 13th, 1913, with the above title, reference is made to the transmission experiments carried out by Couret on cold-blooded animals, the accuracy of which it is stated has been confirmed by Dr. A. J. Smith, Dr. K. M. Lynch, and Dr. D. Rivas. In the account of Couret's experiments published in the *Journal of Experimental Medicine* (vol. xiii., p. 576), the writer states at the outset that his experiments were made with a culture of the bacillus lepræ which had been prepared by Duval, but on p. 582 he describes two experiments with leper tissue carried out on gold fish.

At the Seventeenth International Congress of Medicine in London Duval stated that he had been led into error, and that the cultures which he had previously claimed to be those of the bacillus lepræ were in reality neither cultures nor derivatives of that organism. The methods by which Duval in various publications claimed to have cultivated the bacillus lepræ were employed in this institute, and no cultures of any organisms were obtained for which it might be claimed that they had even a remote genetic relationship with the bacillus lepræ.

Duval, therefore, on his own admission, must have been working with contaminators, and Couret's experiments, other than the two referred to, were not carried out with the bacillus lepræ. As regards the two gold fish fed on teased nodules of leper tissue, and in which he claims to have found "in the omentum and other organs a few scattered acid-fast bacilli," those familiar with the subject will recognise that no value can be attached to such findings.

We are, Sir, yours faithfully,

H. FRASER.
W. FLETCHER.

Institute for Medical Research, Kuala Lumpur, Federated Malay States, Jan. 22nd, 1914.

THE RÔLE OF SYPHILIS IN MENTAL DEFICIENCY AND EPILEPSY.

To the Editor of THE LANCET.

SIR,—In an annotation on the above subject, appearing in your issue of Feb. 14th, you state, in connexion with the application of the Wassermann reaction to cases of mental deficiency, that you believe Dr. K. Frazer and Dr. H. F. Watson to be the first to carry out a general systematic inquiry on this subject in this country.

I would remind you that I carried out a similar investigation on 400 cases under the care of the Metropolitan Asylums Board, the results of which you were good enough to publish in your issue of Sept. 20th, 1913.

I am, Sir, yours faithfully,

J. LESLIE GORDON.

Fountain Temporary Asylum, Tooting, S.W., Feb. 14th, 1914.

⁂ We much regret the oversight —ED. L.

JENNERIAN VACCINATION.

To the Editor of THE LANCET.

SIR,—The letter of Dr. W. d'Este Emery in your issue of Feb. 14th concludes with the sentences: "We have a method which is tolerably efficacious in the prevention of small-pox, although our knowledge of the organism which causes that disease is singularly deficient." To know any means of preventing a terrible disease gives us as a profession a natural pride, but this pride is discounted by the admission of ignorance of the exact nature of the material we use to attain this great end. What steps are bacteriologists taking to remove this ignorance of an organism which in its modified form is an article of daily commerce? To prove that I do not undervalue Jennerian vaccination I may mention that some 22 years ago before going to collect material from patients at a small-pox hospital I revaccinated myself. Observations made about that time by others and myself enabled me to conclude that the causal agent of small-pox and vaccinia is a protozoon. It would not be amiss if every one of us set apart, say, one day each month to ask ourselves serious questions about pathology. Among such queries might well be one as to whether we are sure that the descendants of the tamed parasites of small-pox may not live in some of us and be capable of causing disease many years after they have left their valued little scars.

I am, Sir, yours faithfully,

Portland-place, W., Feb. 14th, 1914. J. JACKSON CLARKE.

THE TUNING-FORK AS AN AID TO DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—When a student in Glasgow my teachers demonstrated its use to the students as an aid in surgical as well as medical cases. This was some 14 years ago, perhaps a little more.

I am, Sir, yours faithfully,

Doncaster, Feb. 16th, 1914. T. L. ASHFORTH.

EXPERIMENTAL SYPHILIS ON MONKEYS.

To the Editor of THE LANCET.

SIR,—I shall be much obliged if either you or some of your readers can enlighten me upon a point connected with the above subject. About 1906 Metchnikoff and Roux inoculated some monkeys with syphilis. Were any of the sores—primary or secondary—examined for the spirochætæ, and was the blood of those animals examined for the Wassermann reaction and with what result?

I am, Sir, yours faithfully,

Liverpool, Feb. 15th, 1914. ROBT. R. RENTOUL.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Asked how it is possible to combine the principle of a whole-time salaried service with free choice of doctor, Mr. Parker says: "I can see no reason why the present system of allotting patients should be discontinued if to-morrow the 20,000 panel doctors became whole-time salaried officers under the State." But surely there is the essential reason that under the present system a man can by refusal to accept patients, or by making himself so inaccessible or disagreeable that few desire to choose him, limit the size of his list almost indefinitely. If he does so, of course he also limits his remuneration, and that is his own affair. But such a privilege could not possibly be accorded to a man with a fixed salary. Whoever offers or pays the salary must see to it that a responsibility commensurate with the salary is accepted and met. It almost seems as if Mr. Parker must be using the words "free choice of doctor" in some different sense from that generally understood by the profession and by those of his colleagues in the State Medical Service Association who are so strongly opposed to the principle. These opponents of "free choice" say that it "makes the doctor conformable to the wishes of the patient" or "places the doctor under the control of the patient," or "makes the doctor regard the interests of his patient and disregard the pecuniary interest of his Approved Society." Many of us think that in the interest of the health of the nation all these conditions are preferable to those which would obtain under a whole-time salaried service. But we cannot understand how it is that at the same time some members of his association are calling out for a whole-time salaried service in order to save us from what they regard as these dangers of free choice of doctor, whilst Mr. Parker himself is asserting that all the advantages of "free choice," such as they are, can be secured in connexion with a whole-time salaried service. One or the other must surely be wrong. I cannot help thinking it is Mr. Parker, and would ask him to reconsider his position and endeavour, since he sees no serious dangers in free choice, to persuade his association to build their national service on the basis of a panel system with free choice of doctor. The foundations are already laid. No uprooting process is necessary. The profession need not be divided into doctors of the rich and doctors of the poor. The fair visions that Mr. Parker has seen of the linking up of hospital work and general practice, and the extension of medical aid to every individual who needs it, might thus possibly become realities whilst some of us are still alive. Before the task of transforming the medical profession into a salaried branch of the Civil Service the boldest reformer might hesitate.—I am, Sir, yours faithfully,

Harley-street, W., Feb. 15th, 1914. LAURISTON E. SHAW.

To the Editor of THE LANCET.

SIR,—If Mr. Parker imagines he has solved the problem of "free choice of doctor" as applied to a State Medical Service, few of your readers will share his opinion. To many it will appear that he does not himself see the difficulties to be encountered. Suppose "20,000 panel doctors became whole-time salaried officers under the State. At first there would be discrepancies with regard to the number on each doctor's list, but things would soon adjust themselves to the altered circumstances." Are all these 20,000 panel doctors in his proposed State service to be paid uniform salaries, as is usual in a Government service, or are their salaries to be according to the number of panel patients they each bring with them? Then as "things adjust themselves to the altered circumstances," is the State to make a revision of the salary each year, in the hope that when the adjustment is finally reached a uniform salary may be possible? Mr. Parker may consider such a service "analogous" to a State service, but it might also be described as the present panel system under State protection, and it might possess considerable advantages for some practitioners not possessed by a real State service. A panel doctor entering the Government service under such conditions might naturally expect that his salary should not be less than he already has from his panel patients. He would also be entitled to fair compensation for other professional emoluments he was required to resign. This might be good business for a few practitioners with a large panel, who might be enabled to draw the same salary without half the worries and anxieties which belong to them at the present time. But it is only a minority that have large panel practices, and the great majority would have to exist on an exceedingly moderate salary "while things were adjusting themselves," looking out for the crumbs that fell from the tables of their more fortunate brethren—i.e., the number over 3000—that might be compelled to select one of them. Perhaps it is wrong to say "compelled," for these patients, Mr. Parker says, have really as much "free choice" as they have at present, and the "free choice" is only taken away from the doctor, who might be willing to attend more than 3000. He is in error as to Poor-law patients lacking "free choice" at the present time. They already possess a "free choice" analogous to this. There are not a few instances that might be given of Poor-law patients moving into another district in order to get the services of the doctor of that particular district, a procedure which does not involve much difficulty to patients of that class. Like reformers of his kind, Mr. Parker has not the slightest regard for vested interests. He does not consider in the least the present purchase value of medical practices, as ordinary business enterprises. Any such change as he suggests would, no doubt, reduce these values to zero, and possibly for that reason he may think that their possessors are not entitled to compensation, but he will hardly persuade the latter of the equity of such a course.

In conclusion, he draws a highly coloured picture of the result to be obtained at the end of the journey, but the road thereto still remains as obscure as ever, the rivers to be crossed as unfordable, the mountains as impassable. The aeroplane by means of which he proposes to soar over all these difficulties is one such as, in my opinion, no Government that has any regard for its well-being is likely to trust itself to.

I am, Sir, yours faithfully,

Hackney road, N.E., Feb. 14th, 1914. MAJOR GREENWOOD.

MOSQUITO NETS.

To the Editor of THE LANCET.

SIR,—I notice that in your review on the Health of the Army in 1912 in THE LANCET of Feb. 14th you draw attention to the refusal of the Government of India to provide anti-mosquito nets for the protection of the British soldier against malaria. You deplore their policy, and say "it is extremely regrettable that such an obscurantist and short-sighted attitude should be adopted by the Indian Government."

I desire to point out that there is some excuse for the Indian Government's attitude so strongly criticised by you. I have served for the last five years in a well-known malarious station in the Punjab and have doctored Thomas Atkins through five corresponding malarial seasons. The latter are, throughout the Punjab, chiefly confined to the damp, hot, muggy weather of the rains, roughly July to October. During this period evaporation from the surface of the body is almost *nil*. The men lie naked on their beds at night with towels about their waists and depend for their sleep on the small current of air caused by a gently flapping punkha; the draught from the latter can be increased by lowering it or attaching towels so as to bring the flapping edge as close to the body as possible. The legs and arms of the sleeper are usually outstretched beyond the radius of the breeze, and therefore are the parts chiefly attacked by the mosquito. Should the punkha stop, the feeling of suffocation and intense heat soon awakens the man below. In place of the palliative punkha it is suggested that the soldier be offered a coarse-meshed mosquito curtain through which no air short of a hurricane can penetrate and over which the punkha cannot be pulled.

Inside a curtain on an ordinary hot night the occupant drips with perspiration and kicks, sleepless, from side to side, craving for slumber but finding only increasing prickly heat and suffocation. The only possible way a curtain can be tolerated is out in the open air or in the outside verandah of the barrack-room; even that is but little better—the heavy damp air clogging up the interstices completely prevents all entrance of air and at the same time drips through from above. Is it to be wondered that the men finally throw aside the whole erection and chance malaria. I personally was fortunate in the possession of an expensive, well-made, and fine-meshed mosquito curtain, supplemented by a Jost revolving air fan, yet often the feeling of intense suffocation has come over me, causing me to lift my curtains, knowing the risks, but taking them gladly.

Taking into consideration the doubtful success of such an experiment as the wholesale provision of mosquito nets for the troops, owing to the personal factor, I do not consider the Indian Government would be justified in undertaking the huge outlay and recurring charge involved. The cost of each mosquito curtain is about half a guinea and its life in the barrack room at the most one season. Fortunately, a possible remedy is coming more and more within the bounds of practical application. I refer to the substitution of large electric fans for the present unsatisfactory punkhas; these will not only cool the air but also keep away all mosquitoes by their draught, and when introduced into barrack rooms will solve one of the greatest problems in the prevention of malaria. I am, Sir, yours faithfully,

Feb. 17th, 1914. W. E. C. L.

THE NATIONAL INSURANCE ACT.

"OWN ARRANGEMENTS."

WE published last week the memorandum issued by the National Insurance Commissioners (England) dealing with the private arrangements which can be made by insured persons in respect of medical benefit. It is, of course, especially with regard to the possibility that an Insurance Committee may give permission to insured persons to make arrangements with people possessing no medical qualification that the memorandum will be scrutinised, and our readers may be informed that the whole matter has been, and still is, under the careful consideration of the General Medical Council. It has long been known that the National Insurance Act did give opportunity for insured persons to avail themselves of the services of individuals purporting to give medical benefit but devoid of medical qualification. The position, though so serious, has alleviating features. It was felt that Approved Societies would be very unwilling to pay away their funds in return for "medical" benefit given by persons who were not medical men, and this has proved to be the case. The general belief has been verified also that Insurance Committees would require evidence of the administration of medical treatment in accordance with the whole spirit of the Act—i.e., treatment rendered by qualified medical men. The example of the Worcester City Insurance Committee in sanctioning the treatment of insured persons by a herbalist[1] is not likely to be followed. Nor is that committee, in view of the revelations which took place at a recent inquest (see p. 561), likely to be embarrassed by many further requests from insured persons anxious to make private arrangements with Mr. Burden, the that office he made public his approval of the objects for which the society was founded.

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[1] THE LANCET, Nov. 8th, 1913, p. 1359.

ASSOCIATION FOR PROMOTING THE TRAINING AND SUPPLY OF MIDWIVES.—The tenth annual meeting of this association will be held, by permission of Mrs. Charles Ebden, at 16, Draycott-place, Brompton, S.W., on Friday, March 6th, at 3.30 P.M., when the chair will be taken by the Duchess of Montrose. A short address on Midwifery in the Provinces will be delivered by Dr. George Reid, county medical officer for Staffordshire.

ROYAL DEVON AND EXETER HOSPITAL.—Mr. Harry Hems, of Exeter, has given a polished alabaster reredos to the chapel of St. Luke attached to the Royal Devon and Exeter Hospital. Mr. Hems is a member of the committee of the charity, with which he has been connected for about 50 years. The chapel was erected at a cost of £3000 by the late Mr. Arthur Kempe, honorary surgeon to the charity, in 1869.

BY the death of Mr. Robert Clay Sudlow, from heart failure following an attack of bronchitis, a well-known figure will be missed from wholesale pharmaceutical commerce. Mr. Sudlow, who died on Feb. 17th, at the age of 68, was for 25 years general manager of Messrs. Burroughs, Wellcome, and Co., resigning about ten years ago owing to failure of health. Mr. Sudlow was well known in Masonic circles.

ELECTRICALLY STERILISED MILK.—The Liverpool corporation is now sterilising by electricity the infants' milk supplied to the public from the various corporation milk depôts in that city. All tuberculous and manurial contamination is said to be removed, as well as danger from zymotic disease. If the taste and chemistry of the milk remain unaltered by this form of sterilisation, as is alleged, it will become necessary for other corporations to look into the matter.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—A council meeting was held at 34, Copthall-avenue, E.C., on Feb. 10th, Surgeon-General G. J. H. Evatt, the President, being in the chair. Dr. Major Greenwood, honorary secretary, reported that the Burnley dispute[1] had not yet been settled. The matter had been referred to a committee consisting of representatives of the local profession and of the guardians in equal numbers, with the district inspector of the Local Government Board as chairman, but so far no agreement had been come to. The honorary secretary reported that he had done his utmost at the recent Representative Meeting of the British Medical Association in London to prevent the rescinding of the latter portion of the resolution condemning the surrender of panel fees by Poor-law medical officers passed at the Brighton meeting of the British Medical Association, but had failed, so that that resolution had been considerably watered down. The council expressed much regret that this had been done. A letter from the secretary of the National Poor-law Officers' Association desiring to know whether their association approved of the federation of all sectional Poor-law Officers' Associations was considered. The honorary secretary explained that since the last council meeting a meeting of representatives of all branches of the Poor-law had been held at Norfolk House, Strand, and a resolution had been almost unanimously carried in favour of such federation. After discussion, the principle of federation was unanimously approved by the council, but doubt was expressed as to whether the funds of the association could afford the necessary extra payments. The honorary secretary then read a letter from the Mayor of Burnley inviting the association to hold their annual meeting this year at Burnley, and it was decided that Thursday, July 2nd, should be selected as the day for the meeting. The council then considered the recent Poor-law Institutions' Order, 1913, to come into force on April 1st next, which will no doubt seriously affect many of their indoor members. The addition to their duties was very considerable, and there was no mention in the Order of any extra payment for the extra work. The honorary secretary pointed out that before they could give any effective assistance they must be in possession of the facts of the case. The council decided that it would be advisable to draw up a report on the Order and its effect on the duties of the medical officers of Poor-law institutions. This was left in the hands of the honorary secretary and Dr. C. Thackray Parsons. The honorary secretary drew attention to an error that was widely prevalent among the Poor-law Medical Service that their association was only for outdoor Poor-law medical officers. He thought every effort should be made to dissipate that erroneous impression.

PRESENTATIONS TO A MEDICAL MAN.—At the Wilts County Asylum recently Mr. John Ireland Bowes, M.R.C.S. Eng., L.S.A., who has just resigned the appointment of medical superintendent after nearly 40 years' service, was the recipient of several presentations. The male patients presented him with a silver-mounted walking-stick and the female patients with a silver-mounted briar pipe. The resident staff gave Mr. Bowes a set of solid silver candelabra. The presentations were made by the newly appointed successor to Mr. Bowes, Dr. S. J. Cole, who was formerly senior assistant medical officer of the institution for about nine years.

DONATIONS AND BEQUESTS.—The late Major G. H. Brand left by will £1000 to St. Mary's Hospital for a "Major Brand bed."—Subject to his wife's life interest the late Mr. George Day, of St. Michael, Somerset, has left the income of a house and farm of about 117 acres upon trust for Taunton Hospital.—The late Mr. R. E. Watmore has, among other bequests, left £500 each to the following institutions: Friedenheim Hospital for the Dying, Brompton Hospital, British Home and Hospital for Incurables at Streatham, and the Royal Association in Aid of the Deaf and Dumb.—By the will of the late Mr. Alexander Allan, of Aberdeen, there were left, among other bequests, £10,000 to the Aberdeen Royal Infirmary, £5000 to the Aberdeen Royal Sick Children's Hospital, £4000 to the Morningfield Hospital, Aberdeen, and £2000 to the Aberdeen Convalescent Hospital. The residue of the estate will also be divided among these and other charities.

BRITISH DENTAL ASSOCIATION: THE SMITH TURNER SCHOLARSHIP IN DENTAL MECHANICS.—This scholarship, of the annual value of £30, is founded to do honour to the memory of James Smith Turner, while helping those dental students who have financial difficulty in completing the dental curriculum. The scholarship is open to any registered dental student who has not completed the curriculum required for a dental qualification, and is awarded after examination, being tenable for one or two years, at the discretion of the Fund Committee. The scholarship money will be paid to a dental or a medical school in Great Britain or Ireland, approved by the committee, in discharge of fees for any portion of the dental curriculum. The examination is both practical and *vivâ voce*. The next examination will be held during April, 1914, at a dental school and on a date to be announced later. Applications must be received on or before March 15th, addressed to the Secretary, British Dental Association, 19, Hanover-square, London, W. Printed forms for applications will be supplied to candidates.

ROYAL SOCIETY: SORBY RESEARCH FELLOW.—The committee, representing the Royal Society and the University of Sheffield, appointed to administer the Sorby Research Fellowship Fund, will proceed to the election of a Fellow after Easter. The object of the Fellowship is not to train men for original research, but to obtain advances in natural knowledge by enabling men of proved ability to devote themselves to research. The appointment will be for five years, subject to regulations, a copy of which may be obtained on application to the Royal Society. The emoluments of the Fellow will be approximately £500 per annum. The Fellow elected will be expected to pursue his investigations at the University of Sheffield unless the nature of the investigation requires that the work should be done elsewhere; he will be expected to enter upon his duties as soon after election as possible. Applications from candidates for the Fellowship will be received by the secretaries of the Royal Society, at Burlington House, London, W., up to April 20th. Each application should contain a brief statement of the scientific career of the candidate, including his previous work, and a statement, as precise as possible, of the nature of the work to which he proposes to devote himself if elected. Each candidate is requested to send one reference, but testimonials are not desired.

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[1] THE LANCET, Nov. 22nd, 1913, p. 1510.

THE STATE AND THE NATIONAL HEALTH.—We are asked to announce that a public meeting is being arranged by the State Medical Service Association at the Essex Hall, Essex-street, Strand, on or about March 25th to discuss the responsibility of the State for the national health

DR. W. T. GRENFELL, C.M.G., AND LABRADOR — Dr. Grenfell, who has done such good work among the fishermen and people of Labrador, is now in England, and will deliver a series of lectures with the object of raising money for his work. The first lecture, illustrated with lantern slides and kinematograph films, entitled "My Life in Labrador," will be given at Queen's Hall on Monday next, Feb 23rd, when His Excellency the American Ambassador will preside

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Parliamentary Session.

PARLIAMENT was opened by the King in person on Tuesday, Feb 10th.

Chairmanship of Insurance Joint Commission.

Mr. MASTERMAN, who has been Secretary to the Treasury, has entered the Cabinet as Chancellor of the Duchy of Lancaster. He has discharged the duties of chairman of the National Health Insurance Joint Commission and of the Minister specially charged in the House of Commons with the responsibility for the details of the administration of the National Insurance Act. On matters of larger policy the Chancellor of the Exchequer and the Prime Minister gave expression to the views of the Government, but it has been on Mr. MASTERMAN that the burden devolved of answering the almost daily batch of questions arising out of the working of the Act. In consequence of this experience, his knowledge of the complicated provisions of the statute and the regulations under it has become extremely wide For this reason the Prime Minister has decided that whilst Mr. MASTERMAN should receive promotion to Cabinet rank he should retain his [illegible]

The New President of the Local Government Board.

One of the most interesting changes in the Cabinet is the transfer of Mr. JOHN BURNS to be President of the Board of Trade and the appointment of Mr HERBERT SAMUEL as President of the Local Government Board in his place Mr. BURNS has been in charge of the Local Government Board since the present Government accepted office eight years ago He devoted a great deal of his attention and energies there to the administrative side of the department's work, but he also has piloted several important measures through the House of Commons, notably the Housing and Town Planning Act. Mr HERBERT SAMUEL comes to the Local Government Board from the Post Office, but before he became Postmaster General he was Under Secretary at the Home Office. In the latter capacity he won great praise for the manner in which he took charge of the Children Act during its passage through the House of Commons

Assistants to Pharmacists (Qualification) Bill.

Mr. GLYN-JONES has introduced a Bill in the House of Commons "to pr [illegible] of persons entitl [illegible] compounding of [illegible] practitioners" [illegible]

Insured Persons in the United Kingdom.

[illegible] of insured persons in the [illegible] the scope of the National [illegible] 4,077,100 women.

Defective and Epileptic Children.

Mr. J. PEASE, the President of [illegible] introduced in the House of Com [illegible] law relating to the education [illegible] children in England and Wales." It was read a first time.

HOUSE OF COMMONS.

THURSDAY, FEB. 12TH.

Deposit Contributors under the Insurance Act.

Mr. GODFREY LOCKER LAMPSON asked the Secretary to the Treasury what proportion of insured persons were now depo [illegible] and [illegible] avai [illegible] appr [illegible] any honourable Members who are interested.

Insured Persons and Non-Panel Practitioners.

Mr. PETO asked the Secretary to the Treasury what was the amount of the fund on Jan. 1st, 1914, derived from insured persons who had chosen other medical men than those on the panels —Mr. WEDGWOOD BENN said in reply: If the honourable Member's inquiry relates to insured persons who have continued to be attended by non panel medical men as private patients without reference to the provisions of the National Insurance Acts, no information is available as to their number and no separate account is or can be kept in respect of them

Sanatorium Benefit in Kent.

Mr. FRED HALL (Dulwich) asked the Secretary to the Treasury whether his attention had been called to the terms of a circular issued by the Kent Insurance Committee to insured persons to the effect that, owing to the number of patients receiving sanatorium benefit and to the fact that the sum of money available for the purpose was limited, it had become necessary to reduce the quantity of nourishment supplied, whether in the case of a certain contributor the committee had communicated with the tradesman who was under instructions to supply [illegible] ordered for him by the doctor [illegible] and whether arrangements [illegible] tuberculosis patients receiv [illegible] ment ordered for them by their medical advisers — Mr. WEDGWOOD BENN answered My right honourable friend is informed that no general circular has been issued by the Kent Insurance Committee making any such announcement as that suggested in the honourable Member's question. He understands, however, in the case of individual insured persons who have already been in receipt of the special nourishment for the full period for which such grants of nourishment are ordinarily given, the committee, while continu [illegible] have in some cases [illegible] further grant of special [illegible] immediate claims of ot [illegible] of securing the employm [illegible] the greatest advantage [illegible] of the insured person [illegible] refers, and a letter was a [illegible] medical adviser notifying him of their decision in the matter. He has, however, continued to receive domiciliary treatment under the supervision of the medical adviser, who recommended in his case the provision of a shelter for open-air treatment, with which he has been supplied. A further grant of special nourishment was in due course considered and allowed, and orders for its supply were issued on Monday, Feb. 9th.

Tuberculosis Benefit.

Mr. SOAMES asked the Secretary to the Treasury how many persons had received treatment for tuberculosis under [illegible] n sana [illegible] NN said [illegible] d for is [illegible] ment at an early date

Bovine Tuberculosis.

Mr. CHARLES BATHURST asked the President of the Board [illegible] proposed to take any and, if any, what steps to encourage stockowners to report to the local authorities cases of bovine tuberculosis existing on their holdings.—Mr. RUNCIMAN wrote in reply: Up to the present £1686 7*s.* 1*d.* has been paid by the Board of Agriculture towards the cost of compensation under the Tuberculosis Order of 1913, but there is a large number of accounts not yet received from the local authorities, some dating from the September quarter. The Board are in communication with the Treasury in regard to a revision of the basis of valuation and the scale of compensation prescribed in the Order.

Registration of Nurses.

Dr. CHAPPLE asked the Secretary of State for the Home Department whether his attention had been called to instances of the abuse of nurses' uniforms during the past few months; and whether he would give his support to a Bill for the State registration of nurses in order to meet this and other evils that were leading to the scarcity of nurses in the ranks of the profession.—Mr. MCKENNA replied: During the past few months my attention has not been called to any case of the kind. The police will make inquiry, but so far as they are aware such cases are of very rare occurrence. Recent Bills on the subject of the registration of nurses have not touched on this matter, and there would be serious difficulties in framing any provision of the nature suggested. I cannot make any promise with regard to a Bill.

MONDAY, FEB. 16TH.

Departmental Committee on Excessive Sickness.

Mr. WEDGWOOD BENN (on behalf of the Chancellor for the Duchy of Lancaster) informed Mr. G. LOCKER-LAMPSON that the Departmental Committee on Excessive Sickness under the National Insurance Act was still taking evidence, and his right honourable friend had no knowledge when it would complete its labours.

Milk and Dairies Bill.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether it was proposed to reintroduce the Milk and Dairies Bill this session.—Mr. HERBERT SAMUEL wrote in reply: The matter is engaging my close attention, but I am not yet in a position to make any statement with respect to it.

TUESDAY, FEB. 17TH.

Medical Benefit.

Mr. SNOWDEN asked the Secretary to the Treasury to state, with regard to England, Scotland, and Wales respectively, for the latest dates for which he had the figures, how many doctors were on the panel, how many chemists had contracted to supply medicine, and what was the average cost of drugs and appliances per insured person.—Mr. WEDGWOOD BENN replied: The approximate numbers of medical men on panels in England, Scotland, and Wales respectively are 16,300, 2700, and 1250 respectively, including medical men who are on more than one panel. The numbers of individual chemists who have contracted to supply medicine cannot be given without calling for a special return from all the Insurance Committees in Great Britain. The information asked for in the third part of the question will not be available until a final settlement of accounts has been effected by all Insurance Committees with the chemists on their panels for the past year.

Hospital Accommodation for Metropolitan Police.

Mr. TOUCHE asked the Secretary of State for the Home Department whether his attention had been called to the lack of a hospital or nursing home for members of the Metropolitan Police Force suffering from ordinary ailments where they could receive proper treatment and attention for which no suitable provision was made at police stations or section houses at present; and was the question of better provision when on the sick list under consideration.—Mr. MCKENNA answered: A central police hospital or nursing home for the Metropolitan Police would not be as satisfactory as the existing arrangement, under which members of the force who need hospital treatment are admitted to a hospital near to their homes, where they can be visited conveniently and without much expense by their families and friends. When the illness does not require hospital treatment, the men are attended at their own homes by the divisional surgeons. Suitable sick rooms are provided for single men at police stations and section houses, where they are treated by the divisional surgeons unless hospital treatment is necessary. The single men form only one-fourth, and the proportion of sickness among them is very small.

WEDNESDAY, FEB. 18TH.

Panel Chemists.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether he was aware that panel chemists in several districts, particularly in Manchester, Salford, and Scotland, were dissatisfied with their position and prospects of full payment of their accounts under the National Insurance Act; and if so, what the Government proposed to do to avoid the danger of insufficiency or inferiority of medicines supplied to the public.—Mr. WEDGWOOD BENN (who replied) said: My right honourable friend is not aware of any such general dissatisfaction in Scotland. The chemists on the panel in Manchester and Salford expressed dissatisfaction at the arrangements in force in those areas during 1913, but it is understood that they have renewed their agreements for the current year und[illegible] [illegible]]eir protection against extravag[illegible] [illegible] he second part of the question t[illegible] [illegible] which doctors and chemists have entered into provide ample safeguards both as regards the quality and the sufficiency of the supply of medicines.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

[illegible]. By A. F. Tredgold, L.R.C.P. Lond., [illegible] Physician to the National Association [illegible] to the Littleton Home for Defective Children. Second edition, revised and enlarged. Price 12*s.* 6*d.* net.

Lectures on Medical Diseases for Nurses. By David Forsyth, M.D., D.Sc. Lond., F.R.C.P. Lond., Physician to Out-patients, Charing Cross Hospital. Price 3*s.* 6*d.* net.

BRYCE, WILLIAM, 54, Lothian-street, Edinburgh.

Notes on Midwifery. Specially for Midwives. By C. F. Lassalle, M.D., C.M. Edin., D.P.H. Oxon., Government Medical Officer, Port Health Officer, Port of Spain, Trinidad, W.I. Price 2*s.* 6*d.* net.

CASSELL AND CO., LIMITED, London, New York, Toronto, and Melbourne.

Expectant Motherhood, its Supervision and Hygiene. By J. W. Ballantyne, M.D., F.R.C.P. Edin., Physician to the Royal Maternity Hospital, Edinburgh. Price 6*s.* net.

CHURCHILL, J. AND A., London.

Guy's Hospital Reports. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXVII., being Vol. LII. of the Third Series. Price not stated.

COLLEGE OF PHYSICIANS AND SURGEONS, New York.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, N.Y. Vol. XIII. 1913. Reprints. Price not stated.

DENTAL RECORD, Office of the, Alston House, Newman-street, London, W.

Dental Diseases in Relation to Public Health. By J. Sim Wallace, D.Sc., M.D., L.D.S. Price 3*s.* net.

EWART, SEYMOUR, AND CO., LIMITED, 12, Burleigh-street, Strand, London, W.C.

Electro-pathology and Therapeutics. By Arthur E. Baines, Sometime Editor of "The Electrical Engineer," together with a Prefatory Treatise upon the Nervous System in its Relation to Neuro-Electricity by F. H. Bowman, D.Sc., F.R.S. Edin., M.I.E.E., F.I.C., F.C.S. Berl. Price 5*s.* net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

The Early Diagnosis of Tubercle. By Clive Riviere, M.D., F.R.C.P., Physician to Out-patients, City of London Hospital for Diseases of the Chest, Victoria Park, E. Price 6*s.* net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

The Cancer Problem. A Statistical Study. By C. E. Green, F.R.S.E. Third edition. Price 5*s.* net.

HEINEMANN, WILLIAM, London.

Man's Miracle. The Story of Helen Keller and her European Sisters. From the French of Gerard Harry. With a Foreword by Georgette Leblanc-Maeterlinck. Price 3*s.* 6*d.* net.

HODDER AND STOUGHTON, London. (Published for the University of London Press, Limited.)

London Medical Publications. Diseases of the Ear, Nose, and Throat. By George Nixon Biggs, M.B., B.S. Durh., Consulting Aural Surgeon, Evelina Hospital for Sick Children. Price 10*s.* 6*d.* net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Sister Henrietta, C.S.M. and A. A. Bloemfontein. Kimberley. 1874-1911. Edited by Dowager Lady Loch and Miss Stockdale. Price 2*s.* 6*d.* net.

The Medical Inspection of Girls in Secondary Schools. By Catherine Chisholm, B.A., M.D., Medical Inspector to the Manchester High School for Girls. Price 3*s.* 6*d.*

TREAT, E. B., AND COMPANY, 241–3, West 23rd-street, New York.

Diseases of the Rectum and Pelvic Colon. By Martin L. Bodkin, M.D. New York, Rectal Surgeon, St. Mary's Hospital, the Williamsburg Hospital, and the Howard Orphan Asylum. Illustrations specially drawn by Francis A. Deck. Price not stated.

WASHBOURNE, R. AND T., LIMITED, Paternoster-row, London; and at Manchester, Birmingham, and Glasgow.

Spiritual Director and Physician. The Spiritual Treatment of Sufferers from Nerves and Scruples. From the French of Rev. Fr. V. Raymond, O.P., Chaplain to the Kneipp Institute at Woerishofen (Bavaria). Translated by Dom Aloysius Smith, C.R.L. Price 5*s.* net.

YEAR BOOK PRESS, THE, 31, Museum-street, London, W.C.

The Public Schools Year Book, 1914. Edited by H. F. W. Deane, M.A., F.S.A., and W. A. Evans, M.A. Price 5*s.* net.

Appointments.

Succ[illegible] [illegible]taries of Public Institutions, [illegible]uitable for this column, are [illegible] Office, directed to the Sub- [illegible] Thursday morning of each week, such information for gratuitous publication.

Aldrich Blake, Louisa B., M.D., M.S. Lond., has been appointed Acting Dean of the London School of Medicine for Women, vice the late Dr. J. H. Cock.

Cole, Sydney John, M.D., B.Ch. Oxon., has been appointed Medical Superintendent of the Wilts County Asylum, Devizes.

Griffiths, E. M., M.B., B.Ch. Aberd., has been appointed Medical Officer of Abercorn.

Johnston, G. J. W., M.D. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Fleetwood [illegible]

[illegible] appointed Assistant Surgeon to [illegible]

[illegible]h., B.A.O. Bel'., D.P.H., has [illegible] eter [illegible] g Surgeon [illegible] n District [illegible]

[illegible] appointed [illegible]

[illegible] appointed [illegible]

Shaw, [illegible] R., M.B., Ch.B. Glasg., has been appointed an Assistant [illegible]

T[illegible] [illegible]een appointed Poor-law Medical [illegible] and Public Vaccinator for [illegible] Normanton and Altofts District of the Wakefield Union.

Webb, C. W., M.D., B.Ch. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ballyward District of the county of Down.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Banbury, Horton Infirmary.—House Surgeon. Salary £120 per annum, with board and residence.

Bedford County [illegible] Salary £80 per annum, wit[illegible]

Belgrave Hospit[illegible] S.W.—House Physician for [illegible] per annum, with board, residence, &c.

Berkshire County Council.—Tuberculosis Officer. Salary £500 per annum.

[illegible] and laundry.

Birmingham Union, Selly Oak Infirmary.—Resident Assistant Medical Officer. Salary £160 per annum.

Birmingham, Yardley [illegible] rculosis Centre, Broad stre[illegible] unmarried. Salary £250 per ann[illegible]

Blackburn County [illegible]—School Medical Inspector [illegible] Health [illegible]

[illegible] and Cottage Homes.—Resident [illegible] Salary £150 per annum, with apart[illegible] attendance.

[illegible] Deficiency Act, 1913).—Three In[illegible]spectors (one Fem[illegible]

Bournemouth Coun[illegible] Medical Officer [illegible]

Brentwood Asylum [illegible] Salary £200 per [illegible] washing.

[illegible] Sal[illegible]ry £180 [illegible] Surgeon [illegible]—House [illegible] Assistant [illegible]um, with [illegible]

[illegible] Resident Medical Officer as [illegible]s and House Surgeon during [illegible] of £80 and £100 per annum [illegible] washing.

[illegible]—Senior Assistant Medical [illegible] board, lodging, and washing.

[illegible]ital, Judd street, W.C.—Assistant Surgeon.

Charing Cross Hospital.—Obstetric Registrar.

Chelsea Hospital for Women, Fulham road, S.W.—Registrar. Salary £40 per annum.

Chester General Infirmary.—House Physician. Salary £90 per [illegible] maintenance.

[illegible] on, [illegible] ith [illegible] —[illegible] ith board, residence, and washing.

Davos-Platz, Switzerland, Queen Alexandra Sanatorium.—Assistant Medical Officer. Salary £100 per annum, with board, [illegible]

[illegible] £600 per annum.

Evelina Hospital for Sick Children, Southwark, S.E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

Glasgow Maternity and Women's Hospital.—Two Indoor House [illegible] use Surgeons for three [illegible] West End Branch.

[illegible] r Mental Diseases.—[illegible] £250 per annum, with board, &c.

Gloucester, Gloucestershire Royal Infirmary and Eye Instit[illegible] of [illegible] ry [illegible] d. [illegible] st- [illegible] o[illegible]logist. Salary £25.

Hospital for Sick Children, Great Ormond street, W.C.—House [illegible] nd residence, &c. [illegible] lical Officer of [illegible] t Medical Officer [illegible]

[illegible]—First Assistant [illegible] board, lodging, and attendance.

Lancashire County Council.—Four Assistant Dispensary Tuberculosis Officers. Salary £350 per annum. Also Two Junior Assistant Tuberculosis Officers. Salary £300 per annum.

Lancashire County Council and County Borough of Bury Joint Committee, Bury.—Joint Tuberculosis Officer. Salary £400 per annum.

Lea[illegible]

Lee[illegible]

Lee[illegible]

Lee[illegible] with board, washing, apartments, and attendance.

Leeds University.—Demonstrator in Bacteriology. Salary £250 per annum.

Leicester Education Committee.—Female Assistant Medical Officer. Salary £250 per annum.

Leicester, Leicestershire County Council.—Assistant Tuberculosis Medical Officer. Salary at rate of £300 per annum.

[illegible]

Liverpool, Royal Southern Hospital.—Three House Surgeons and Two House Physicians for six months. Salary at rate of £60 per annum, with board and residence.

London Lock Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

London Temperance Hospital, Hampstead-road, N.W.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Children's Hospital, Pendlebury, near Manchester.—Resident Medical Officer, unmarried. Salary at rate of £100 per annum.

Manchester Children's Hospital (Out-patients' Department), Gartside-street, Manchester.—Assistant Medical Officer for six months. Salary £100 per annum.

Manchester Hospital for Consumption and Diseases of the Throat and Chest, Crossley Sanatorium, Delamere Forest, Cheshire.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

Manchester Royal Infirmary and Dispensary.—Two Honorary Assistant Physicians, Two Honorary Assistant Surgeons, and an Honorary Dental Surgeon.

Margate, Royal Sea-Bathing Hospital for Surgical Tuber[illegible] Sa[illegible]ary at rate of £150 per annum for [illegible] um for second six months, with [illegible]

[illegible] and Dumb Children.—Medical [illegible]

Metropolitan Asylums Board.—Dental Surgeon. Salary £3[illegible]0 per [illegible]

[illegible] at rate of £165 per annum, with apartments, &c.

Newport (Mon.), Royal Gwent Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Paisley, Royal Alexandra Infirmary.—House Physician and House Surgeon. Salary £80 each, with bed and board.

Portsmouth, Borough of.—Assistant Medical Officer for the Inspection of School Children. Salary at rate of £250 per annum.

Portsmouth, Royal Portsmouth Hospital.—Pathologist. Salary £150 per annum.

Preston, Elswick Sanatorium, near Kirkham.—Medical Superintendent. Salary £300 per annum, with board, apartments, and washing.

Preston Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Pathologist and Registrar. Salary at rate of £80 per annum, and lunch. Also Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

Rochester, St. Bartholomew's Hospital.—Resident House Physician for six months. Salary at rate of £110 per annum, with board, residence, and laundry.

Royal Naval Medical Service.—Twenty-five Appointments.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with board, residence, &c. Also Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

Sheffield, East-End Branch of the Children's Hospital (Out-patient Department).—Female House Surgeon. Salary £75 per annum, with board and residence.

Sheffield Royal Infirmary.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

Singapore Infectious Diseases Hospital.—Medical Superintendent. Salary 4200 dollars for the first, 4500 dollars for the second, and 4800 dollars for the third year, with furnished quarters.

Southampton Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Stockport Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

Swansea General and Eye Hospital.—House Surgeon. Salary £125 per annum, with board, washing, and attendance.

West Bromwich County Borough Education Committee.—Female School Medical Officer. Salary £250 per annum.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Clinical Assistants to Out-patients.

Western General Dispensary, Marylebone-road, N.W.—Honorary Physician. Also Honorary Radiographer.

West Ham and Eastern General Hospital, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

West London Hospital, Hammersmith-road, W.—Two House Physicians, Three House Surgeons, and Resident Casualty Officer for six months. Board, lodging, and laundry allowance provided.

West Riding County Council Education Committee.—Eye Specialist. Salary £350 per annum.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Salary at rate of £125 per annum, with board, rooms, and laundry.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Crediton, in the county of Devon; at Knaresborough, in the county of Yorks; and at Ongar, in the county of Essex.

Births, Marriages, and Deaths.

BIRTHS.

Donald.—On Feb. 12th, at Liskeard, Cornwall, the wife of John Donald, M.D., of a daughter.

Pringle.—On Feb. 11th, at Withington-road, Whalley Range, to Dr. and Mrs. John Pringle, a son.

MARRIAGES.

Frankau—McDougall.—On Feb. 11th, at All Saints' Parish Church, Milford-on-Sea, Claude Frankau, F.R.C.S., to Edith Lorne, third daughter of the late A. F. McDougall, of Rendham, and Mrs. McDougall.

Frost—Rawlins.—On Jan. 15th, at St. Luke's Church, Jullundur, India, Lieutenant-Colonel G. H. Frost, I.M.S., to Sara, daughter of the late Major-General J. S. Rawlins.

DEATHS.

Gilchrist.—On Feb. 8th, at Cimiez, Nice, Dr. A. W. Gilchrist, aged 58 years.

Maxwell.—On Feb. 13th, at 29, Woolwich Common, Woolwich, Theodore Maxwell, M.D., B.A., B.Sc., aged 66.

Paul.—On Feb. 14th, at "Costebella," Torquay, John Ernest Paul, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HIGHER EDUCATION OF WORKING PEOPLE.

The report of the University of London Joint Committee for the Promotion of the Higher Education of Working People on the work of the four years 1909-13 has been issued, and forms an interesting document. This committee, which was established by the University in 1909 as a result of representations made to the University by the Workers' Educational Association to promote the extension of university teaching among working people, is constituted of seven representatives each from the University Extension Board and the Workers' Educational Association, the University representatives guarding the standard of the teaching while the Association's representatives guide its direction into channels suited to the requirements of those who are to benefit from its operations. Within certain limits the students are left free to choose their subjects and to have a voice in the choice of their tutor and in the conduct of the class meetings. On the other hand, each student has to sign an undertaking to attend regularly throughout the three years' course and to write a satisfactory number of papers for the tutor on questions connected with the subject of study. Each class meets once a week for 24 weeks in the session, the time allotted being two hours, of which the first hour is devoted to the lecture, the second being given up to free discussion and consideration of individual difficulties. The subjects of study comprise history, literature, economics, sociology, political science, and biology, controversial questions, which inevitably occur in these subjects, being treated with strict impartiality. The progress of the movement may be estimated from the fact that starting in two classes established in 1907 by the University of Oxford to-day every university and university college in England and Wales is responsible for one or more classes. If one had any doubt of the possibilities for good of such a movement it would surely be dispelled on reading the expressions of opinion, quoted in the report from some of the students: they are broad, penetrating, discriminating in idea, and lucidly worded. It seems regrettable that so admirable an institution should be cramped in its energies for lack of funds. The beneficent character of a movement which automatically selects the fittest for improvement should secure for it the public support it needs.

HEALTH AND HOSPITALS IN TRINIDAD.

A report, prepared by Mr. S. W. Knaggs, C.M.G., Colonia Secretary, on the Blue-book of Trinidad and Tobago for the year 1912-13, has been presented to Parliament. It gives the estimated population of Trinidad as 312,790 and that of Tobago as 20,762. The infirm population included 811 deaf and dumb persons, 533 blind, 952 mentally deranged, and 349 lepers. The births during the year numbered 11,711 and the deaths 10,295. The general health was good. There were six cases of bubonic plague, but the energetic precautions of the Sanitary Department prevented any spread of the disease. A serious outbreak of dysentery, lasting from June to December, 1912, occurred in Tobago; there were 3179 cases and 466 deaths. The outbreak was attributable to a defective water-supply and to the want of proper sanitary supervision, and measures are being taken to deal with the recommendations of the medical authorities under these heads. A very important and successful conference assembled in 1913 to consider the desirability of adopting general measures for the prevention and treatment of tuberculosis, an increasingly prevalent disease in the West Indian Colonies. Proposals for giving effect to the measures advocated at this conference are now under the consideration of the Trinidad Legislature.

The Colonial Hospital, Port of Spain, with 320 beds, is the most important in the colony. The number of patients admitted during the year was 6451, the number discharged 5668, and the daily average in hospital 291. The number of deaths was 823. Of those discharged, 2004 were cured, 3453 were relieved, and 211 were not improved. At the San Fernando Hospital, which has 120 beds, 3004 persons were admitted and 2569 discharged, the daily average in hospital being 102. District hospitals are also maintained by the Government at Tobago, Arima, St. Joseph, Tacarigua, Couva, Princestown, and Cedros, with an aggregate accommodation of 246 beds. The number of patients in these on March 31st, 1913, was 182. In addition, there are small temporary hospitals at Chaguanas, Sangre Grande, and Mayaro. There are two hospitals devoted entirely to the treatment of persons suffering from yaws—one in Trinidad and the other in Tobago. The former has accommodation for 200 patients and the latter for 160. The use of salvarsan in the treatment of this disease continues to give very favourable results, the number in the Trinidad Hospital having been reduced during the year from 135 to 32, and those in the Tobago Hospital from 79 to 15. These numbers have, however, again increased, owing to fresh cases having been brought in. The Lunatic Asylum in Port of Spain contained on March 31st, 1913, 672 inmates—408 males and 264 females. There were 64 deaths during the year and the number of discharged was 48, of whom 39 were cured, 6 relieved, and 3 not improved. The average stay of inmates of the asylum was in the case of men 2½ years and in the case of women 4¼ years. The Leper Asylum, situated about two miles west of Port of Spain, contained at the close of the year 283 inmates—202 males and 81 females. The number of admissions was 96, discharges 59, and deaths 39.

MARTIAL AND MEDICINE.

To the Editor of THE LANCET.

SIR,—Turning over Mr. Hugh Platt's "A Last Ramble in the Classics," which you reviewed in THE LANCET of [illegible]

"Lotus nobiscum est, hilaris cœnavit; et idem
[illegible]

Mr. Platt roughly renders the Latin thus:—

"[illegible] our side,
[illegible] y? they cried.
[illegible] died."

This joke Mr. Platt thinks may have been suggested by a Greek epigram by one Lucilius, a pensioner of Nero (Anth., Pal. xi., 257):—

'Ερμογένη τὸν ἰατρὸν ἰδὼν Διόφαντος ἐν ὕπνοις
Οὐκέτ' ἀνηγέρθη, και περίαμμα φέρων.

[illegible]

I am, Sir, yours faithfully,

Feb. 18th, 1914. EDWIN A. EADE.

A MEDICAL MISSION IN PERSIA.

Mr. T. G. Grahame, British Consul-General for the Province [illegible] erected for the purpose in the Shamsabad q[illegible] They comprise a m[illegible] 110 patients, and a [illegible] will shortly be ready for use. [illegible] sists of two European doctors, one European nurse, and 14 Persian assistants; the women's hospital staff consists of two European doctors (ladies). [illegible] A dispens[illegible] of the [illegible] tion with the use of Western drugs. For some years past a leading British firm of chemists has been represented in Ispahan.

METRIC WEIGHTS AND MEASURES.

To the Editor of THE LANCET.

[illegible] to the members of the Bradford Textile Society and the ensuing discussion. This can be obtained from the secretary of the association, Finsbury-court, Finsbury-pavement, London, price 3*d*., and is interesting to others besides the [illegible] by bringing home to them the [illegible] weights and measures connected [illegible] matches in similar couples at right angles. The square decimetre is one of the six sides of a cube which measures 1 litre, and the litre of water weighs 1 kilogramme. Again, five matches placed end to end measure 25 centimetres or ¼ metre. A match and a half on the end of a yard stick will turn it into a metre. The whole eight matches arranged parallel quite close together with the heads alternately up and down measure 2 centimetres in breadth. The weight of the eight matches is 1 gramme. Moreover, six of the [illegible] really consists of. I am, Sir, yours faithfully,

London, Feb. 14th, 1914. W.

MESSRS. A. WULFING AND CO., of Chenies-street, London, W.C., inform us that the King of Spain has granted to them his royal warrant for sanatogen, albulactin, and their other products. Messrs. Wulfing add that albulactin is used in the Royal nurseries for their Majesties' infants.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. *In 1914.*—

April 13th and 14th (Berlin).—Thirteenth Congress of the German [illegible]

[illegible] the International [illegible] Depage, Bruxelles.)

" [illegible] of the German Surgical Society.

" 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.

" [illegible]

" [illegible]

May [illegible]

June [illegible]

July [illegible]

" [illegible]

METEOROLOGICAL READINGS.

(Taken daily at 8 30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 18th, 1914.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks.
Feb. 12	29 62	S W	0 36	81	52	44	43	44	Cloudy
" 13	29 90	S W	0 05	79	54	40	39	41	Fine
" 14	29 78	S W.	0 15	87	59	41	52	54	Cloudy
" 15	29 65	S W.	0 02	75	54	53	52	53	Raining
" 16	29 98	S.W	0 03	65	48	44	44	45	Overcast
" 17	30·10	S W.	...	79	50	38	37	38	Fine
" 18	29 50	S.W	0 26	56	46	38	44	44	Raining

The f[illegible] received:
Trop[illegible]
Jou[illegible]
Jou[illegible]
Hos[illegible]
Med[illegible]
Prov[illegible]
Gyn[illegible]
Klin[illegible]
Jou[illegible]
Poli[illegible]
Rev[illegible]
Surg[illegible]
Medicine.

Medical Diary for the ensuing Week.

SOCIETIES.

OYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Lord Rayleigh, O.M.: On the Diffraction of Light by Spheres of Small Relative Index.—Prof. H. E. Armstrong and Prof. F. P. Worley: (1) Studies of the Properties Operative in Solutions. XXXI., Sulphonic Acids and Sulphuric Acid as Hydrolytic Agents: a Discussion of the Constitution of Sulphuric and Other Polybasic Acids and of the Nature of Acids; (2) XXXII., The Influence of Sulphonates on the Hydrolytic Activity of Sulphonic Acids: a Contribution to the Discussion on the Influence of Neutral Salts.—Prof. H. E. Armstrong, Mr. R. T. Colgate, and Mr. E. H. Rodd: Morphological Studies of Benzene Derivatives. V., The Correlation of Crystalline Form with Molecular Structure: a Verification of the Barlow-Pope Conception of "Valency-Volume."—Prof E. Wilson: The Magnetic Properties of Iron when Shielded from the Earth's Magnetism (communicated by Prof. J. A. Fleming).—Dr. J. N. Pring: The Occurrence of Ozone in the Upper Atmosphere (communicated by Sir E. Rutherford).—Mr. W. A. D. Rudge: (1) On a Meteoric Iron from Winburg, Orange Free State (communicated by Prof. B. Hopkinson); (2) On the Electrification Produced during the Raising of a Cloud of Dust (communicated by Sir J. J. Thomson).—Prof. W. M. Thornton: The Electrical Ignition of Gaseous Mixtures (communicated by Sir Charles Parsons).

OYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.

Mr. F. St. J. Steadman: Oral Sepsis as a Predisposing Cause of Cancer.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.

Dr. R. Hutchison and Dr. John Parkinson: Case of Paroxysmal Tachycardia in a Child of 2⅔ Years.

Dr. Gordon R. Ward: Secondary or Symptomatic Leukæmia with Special Reference to Cancer with Bone Metastases.

THURSDAY.

SECTION OF NEUROLOGY,
SECTION OF OPHTHALMOLOGY, and } Combined Meeting.
SECTION OF OTOLOGY: at 8 P.M.

Cases and Demonstration:

Physiological and Pathological Nystagmus of Labyrinthine Origin.

Discussion (at 9 P.M.):

On Nystagmus (to be opened by Mr. Holmes Spicer, Dr. James Taylor, and Mr. Sydney Scott).

The discussion will be continued on Wednesday, March 4th, at 8.30 P.M., when Dr. Llewellyn, Dr. Dan McKenzie, and others will take part in it.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Dr. F. G. Crookshank: Incurvate Little Fingers in an Afro-Aryan Child.

Dr. J. F. O'Malley: Extensive Cicatricial Pharyngeal Diaphragm following Scarlatina.

Mr. W. Girling Ball: Cyst of the Cæcum.

Mr. W. Barrington Ward: Enlargement of the Mammary Gland in a Boy.

Dr. Edmund Cautley: (1) Multiple Subcutaneous Tumours in the Arm; (2) Subacute Nephritis, with Ascites and Uræmia, ending in Recovery; (3) Serous Apoplexy (?).

Dr. Langmead: So-called Congenital Hypertrophic Stenosis of the Pylorus.

And other Cases.

SECTION OF EPIDEMIOLOGY (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Lecture:

Sir Ronald Ross, K.C.B., F.R.S.: Malaria in Cyprus and Greece.

IEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., Clinical and Pathological Evening.

RITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

WEDNESDAY.—4 P.M., Exhibition of Cases.

IUNTERIAN SOCIETY, Guy's Hospital, London Bridge, S.E.

WEDNESDAY.—4 P.M., Clinical Afternoon. Dr. Iredell: Demonstration of Diathermy and the Results of the Treatment in Certain Cases.—Mr. J. G. Saner: Cases of Ileo-sigmoidostomy and Colectomy Operated on between January and June, 1910 (with Sir Arbuthnot Lane's kind permission).—Dr. Hunt: Demonstration of the Electro-cardiograph.

ECTURES, ADDRESSES, DEMONSTRATIONS, &c.

OYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Milroy Lecture:—Dr. F. Shufflebotham: The Hygienic Aspect of the Coal Mining Industry in the United Kingdom. (Lectures II. and III.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Hunterian Lectures:—Prof. A. Keith: Evolution and Diseases of the Anthropoid Apes: Lecture IV., Injuries and Diseases of Anthropoid Apes; Lecture V., Structural Changes Due to Age, Sex, and other Conditions; Lecture VI., A Résumé of the Present State of [illegible] Various Forms of Extinct Anthropoids. [illegible] from the Museum of the College; the [illegible] sed.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. J. L. Mummery: Common Errors in Diagnosis—Rectal.

TUESDAY.—4 P.M., Dr. G. A. Sutherland: Clinique (Medical). 5.15 P.M., Lecture:—Mr. K. Campbell: Common Errors in Diagnosis—Eye.

WEDNESDAY.—4 P.M., Mr. G. E. Waugh: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. L. Guthrie: Common Errors in Diagnosis—Children.

THURSDAY.—4 P.M., Mr. A. Carless: Clinique (Surgical). 5.15 P.M., Lecture:—Sir StClair Thomson: Common Errors in Diagnosis—Nose and Throat.

FRIDAY.—4 P.M., Dr. D. Grant: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Pritchard: Meningitis.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Meningitis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: *Diseases of Women.* 5 P.M., Lecture:—Mr. Addison: *Diseases of the Breast.*

THURSDAY.—9 A.M., Dr [illegible] Bacterial Therapy Department. 10.30 A.M., Dr. [illegible] Demonstration. 12 noon, Lecture:—[illegible] rological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Addison: Diseases of the Breast.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Mr. Addison: Diseases of the Breast.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, *Prince of* Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Medical In-patients (Dr. R. M. Leslie). [illegible]

TUESDAY.—2.30 P.M., Operation [illegible] (Dr. A. G. Auld); Surgical [illegible] (Dr. A. E. Giles). X Rays [illegible] The Bismuth Meal and its [illegible] In-patient (Dr. A. J. Whiting). 4.15 P.M., Mr. Gillies: [illegible] Polypi.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P. [illegible] (Dr. A. E. Giles). [illegible] Clinics:—Medic [illegible] (Mr. Carson); [illegible]

FRIDAY.—2.30 P.M. [illegible] (Dr. A. G. Aul [illegible] Brooks). 3 P.M. [illegible]

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-pat [illegible] —10 A.M. Dr. Singer: Medical. Mr. [illegible] noon, Mr. G. N. Biggs: Throat, Nose, [illegible] Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine.

TUESDAY.—Out-patient Demonstrations:—10 A.M.: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin. ——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

Thursday.—Out-patient [illegible] Medical. Mr. H. Cur[illegible] Throat, Nose, and E[illegible]

[illegible] Medical. Mr. [illegible] Skin.—[illegible] Sir John Rose [illegible] Surgery. [illegible] Medical. Mr. [illegible] Bickerton: [illegible]

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

Monday.—4.15 P.M., Dr. F. Warner. Cultivation of Mental Powers and Systematic Training.

[illegible] Dr. W. J. Hadley: The [illegible] The Skin.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

Wednesday.—4.30 P.M., Demonstration:—Dr. Fenton: Cases of Non-tuberculous Diseases of the Chest.

THE THROAT HOSPITAL, Golden-square, W.

Monday.—5.15 P.M., Special Demonstration of Selected Cases.
Thursday.—5.15 P.M., Clinical Lecture.

[illegible]ENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn-road, W.C.

Friday.—3 P.M., Lecture:—Dr. A. Wylie: The Causes and Treatment of Hoarseness.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

Tuesday and Friday.—3.30 P.M., Clinical Lecture:—Mr. L. Paton: Optic Atrophy.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

Thursday.—4 P.M., Lecture:—Mr. S. Stephenson: The Common Eye Disease of Childhood—Phlyctenulosis.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.

Post Graduate Lectures on the Diagnosis and Treatment of Cancer:—

Wednesday.—5 P.M., Mr. Swan: Tumours of the Bladder.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

Tue[illegible]
Thu[illegible]

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers Medical Practitioners, &c.—

Friday.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture VI.—Dr. C. Wall: Treatment—General.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

Tuesday.—3 P.M., Prof. W. Bateson: Animals and Plants under Domestication. (Lecture VI.)
Saturday.—3 P.M., Prof. Sir J. J. Thomson, O.M.: Recent Discoveries in Physical Science. (Lecture I.)

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

Monday.—Manchester Children's Hospital, Gartside-street.—[illegible]

[illegible] Optic Neuritis and Atrophy.

RO[illegible] COURSES, Dublin.

[illegible] Rupture of the Uterus. [illegible] of Patients and Minor Operations.

Tuesday.—10 A.M., Major Operations.
Wednesday.—10 A.M., Obstetrical Lecture: The Varieties of Contracted Pelvis. 11 A.M., Examination of Patients and Minor Operations.
Thursday.—10 A.M., Major Operations.
Friday.—10 A.M., Gynæcological Lecture: The Operative Treatment of Backward Displacement of the Uterus. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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THE INDEX TO THE LANCET.

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The Hunterian Lectures

ON

INFANTILISM.

Delivered before the Royal College of Surgeons of England on Feb. 2nd and 4th, 1914,

BY HASTINGS GILFORD, F.R.C.S.ENG.

LECTURE I.

Delivered on Feb. 2nd.

MR. PRESIDENT, LADIES AND GENTLEMEN,—The name "infantilism" was first used by Lasègue, and we are indebted to other French writers, notably Fournier, Hutinel, Meige, Brissaud, and Garnier, for much information and for a valuable classification. Among Italians Taruffi, E. Levi, and Ferranini; among Germans Schaaffhausen and Virchow; among Austrians Arnold Paltauf and Fröhlich; among Americans Cushing and Herter; and among Belgians Hertoghe may also be singled out for their valuable contributions. But of all the works upon this subject the most important is that which has proceeded from the Eugenics Laboratory of the University of London, under the guidance of Professor Karl Pearson. The book on Dwarfism, which has been drawn up by his assistants, Dr. H. Rischbieth and Miss Amy Barrington, with its exhaustive bibliography, its copious *résumé* of cases, its pedigrees and its wealth of pictures, is a rich mine of information for the investigator into the subjects of dwarfism and of infantilism, and I feel bound to put it into the forefront of my lecture not only because of its intrinsic value but because I have drawn upon it for most of my facts. In this book references to more than a hundred cases of infantilism, chiefly ateleiosis, have been gathered together and arranged in historical sequence. Their number not only shows the growing importance of the subject, but also that there is now sufficient material to justify an attempt at a scientific classification.

CLASSIFICATION.

Until recently the best arrangement of the forms of infantilism was that for which we are indebted to the French writers Lorain, Brissaud, and Variot and Pironneau, who have grouped them into types founded upon their more obvious anatomical characteristics. Thus the name of Lorain has become associated with that form of infantilism, usually of lesser degree, in which the bodily proportions are of the adult pattern and in which, according to Brissaud, there is reason to believe that the defect of development is dominated by hypoplasia of the heart and arteries. Brissaud's type was thought to be dependent upon some defect in the action of the thyroid gland, and was therefore termed the myxœdematous type. While Lorain's type is usually characterised by a more thin or angular figure and by debility, in Brissaud's type there is a tendency to fatness. Brissaud's type of infantilism is often of extreme degree—the sex organs are undeveloped and the proportions are infantile. Recently Variot and Pironneau,[1] in describing a case of progeria, suggested the addition of another type which they termed "le nanisme type sénile," in which may be included all cases of dwarfism or infantilism coexisting with emaciation, debility, and other signs indicative of the decrepitude of senile decay.

These types have been of great service and are still useful for descriptive purposes, but they can hardly be retained as the basis of a scientific classification. Though adequate when our knowledge of infantilism was in its infancy, they prove inadequate when we attempt to fit them to our present enlarged conception of this subject. Thus we now know that most of the cases, which were regarded as of the myxœdematous type of Brissaud, are in reality due either to changes in the pituitary gland or are examples of ateleiosis. In Lorain's type again there may be no evidence of anangioplasia, and in Variot's senile type the senility may be nothing but an end result of a prior infantilism.

Not only is there reason to criticise the types into [illegible] meaning [illegible] antilism" [illegible] s usually regarded as synonymous with sex deficiency, as if there could be no infantilism in which the sex organs are normal. But such a conception of infantilism can hardly be entertained. An infant with sexual precocity does not cease to be an infant because its sex organs have ripened, and the adult who is somatically perfect is still a man or a woman despite some lack of development of the reproductive organs. Although the sex organs are infantile the individual as a whole is not necessarily immature except in regard to sex alone.

There is, moreover, great objection to the conception of infantilism as a condition dominated by one set of organs in that the meaning of the word is artificially cramped, seeing that it is necessarily limited in its application to sex-bearing animals or plants. The terms "infantilism" and "infantilate" ought to be as wide in their meaning as "dwarfism" and "dwarfed," and therefore capable of being applied to any animal, not only to the metazoa but to the protozoa, to cells and to organs, as well as to the complex animal, and to plants as well as to animals. This becomes more obvious when we compare the state of infantilism with the state of dwarfism, for we then see how artificial is any definition which limits the meaning of "infantilism" to the sphere of one organ.

The difference between infantilism and dwarfism is that whereas in dwarfism there is a serious delay or arrest of growth, in infantilism there is a similar imperfection of development. The one is purely quantitative, the other qualitative. Dwarfism is, therefore, usually one of the symptoms of general infantilism, but not invariably; for just as a child of 12 may be of adult stature, so also, though but seldom, do we meet with an infantilate who is not a dwarf.

THE ORIGIN OF INFANTILISM.

It is one of the cardinal principles of the doctrine of evolution that every individual, every organ, every cell is liable to depart from established custom and to show diversity of form and function, and such changes or "variations" are themselves liable to vary. Hence, if we put on one side the slighter modifications, we have two degrees of variations, one of which we know as the "continuous variation" or "fluctuation," and the other as the "discontinuous variation" or "mutation." And it is important to realise that though the fluctuation is of lesser degree it need not necessarily be less conspicuous. The real difference between them has been shown by De Vries to lie in the fact of heredity more than in any other circumstance. Now a fluctuation is, as a rule, if not invariably, the outcome of two factors, the one being an inherent tendency to vary and the other a congenial environment or stimulus which calls it forth, or accentuates it when already extant. A mutation, on the other hand, seems to come into being spontaneously without the assistance of any outside help. It is, therefore, in reality the stronger or greater of the two variations; and this, indeed, is shown by the fact of heredity which is its most characteristic feature.

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[1] Bulletin de la Société de Pédiatrie de Paris, 1910, p. 207. La Clinique Infantile, vol. viii, 1910, p. 705.

Here it may be objected that merely to call anything a variation does not advance our knowledge. But in reality the word carries us a stage nearer to the origin and nature of infantilism, for it enables us to make comparisons with other variations. And, as Professor Bain has shown, the ability to make fresh comparisons or fresh associations of ideas lies at the foundations of a superior intelligence. Moreover, it enables us to adopt a classification which is not dependent upon superficial distinctions, but is fundamental, for by it we are able to find a natural and adequate explanation, not only of the varieties, but of the very occurrence of infantilism.

DEFINITION.—CLASSIFICATION.

We regard infantilism, therefore, as *a conspicuous delay or arrest of development.* The lesser degrees of defective development do not constitute infantilism, seeing that they are not such a departure from the normal as to attract attention or to throw the individual or the part affected out of harmony with the surroundings. But the condition connoted by the word "infantilism" as by the word "dwarfism" is necessarily abnormal or pathological. If we confine our consideration of infantilism to the human being we shall have to recognise two kinds or classes. In the one the man is affected phylogenetically, constituting racial, ethnic, or evolutionary infantilism; in the other ontogenetically, constituting individual or developmental infantilism.

I. EVOLUTIONARY OR PHYLOGENETIC INFANTILISM.

In this class the man as an individual is normal. He can only be regarded as abnormal when considered as the constituent of a people or race as compared with other races of mankind. Just as in some parts of the world nations or peoples have fallen into a state of racial degeneration, so in other cases races may never have arrived at maturity, but still exist in a state of defective development or of actual infantilism. For example, the Japanese, some Chinese, and the Siamese in Asia and the Bantus in Africa show evidences of being racially imperfect when compared with Caucasians. In other nations the evolutionary defect is much more pronounced, constituting a racial abnormality or infantilism. This is the case, for example, with the forest dwarfs of Central Africa, the Bushmen of South Africa, and the Sakai of Malaya. Their evolutionary status shows that they are anthropologically discordant, so that, like an inferior species of animal, they are driven into the forests and deserts, mountains, or other less hospitable parts of the earth's surface.

II. DEVELOPMENTAL OR ONTOGENETIC INFANTILISM.

Just as each of the structural units of the body is liable to degenerate prematurely so also may it continue immature, and it must sometimes happen that this immaturity is of extreme degree, constituting infantilism. Hence it follows that not only is there a degeneration or a dwarfism but also an infantilism of cells, an infantilism of organs, and an infantilism of the individual as a whole. For the sake of completeness each of these varieties of infantilism must be touched upon, although the greater part of our lecture must be devoted to the infantilism of man as a whole.

A. *Infantilism of Cells.*

In all parts of the body single cells or groups of cells are liable to stagnate or even to be arrested in their development. It has been shown that this is particularly likely to happen in those areas in which one kind of tissue terminates abruptly in another kind of tissue or where tracts of some fœtal structure have differentiated into more than one organ at a comparatively late period of development. Thus, at the margin skin and mucous membrane, the lips, the anus, or again in the organs formed out of the primitive segmental organs, islands of ill-developed cells are apt to be displaced and to remain isolated from their normal surroundings. Similarly with the long bones, in which groups of cartilage cells or half-formed bone cells are often left behind by the advancing tide of ossification. Such infantilate cells pent up in uncongenial surroundings, unable to develop, are apt, as Cohnheim has shown, to undergo premature degeneration and to proliferate as cancers.

B. *Infantilism of Organs.*

We may speak in a similar manner of organs which have never accomplished their destiny. If the defect of development be of slight degree no harm results, but if, on the other hand, it be extreme the organ is in a state of infantilism, and as such is prone to degenerate prematurely. Thus, a kidney which shows slight developmental imperfections in the form of lobulations of its surface will probably last its allotted span; but if the defect be more extreme, so that it never gets beyond the infantile stage, it is liable to undergo early fibrosis. So also with the infantilate brain, thyroid, testes, ovary, breast. These and other organs if in a state of striking immaturity are prone to end their developmental career prematurely, falling into senile decrepitude before they have attained their prime.

C. *Infantilism of the Individual as a Whole.*

There is reason to believe that infantilism of cells and of organs may be divided into two classes according to whether the arrest of development is the result of definite causes and is a fluctuation or whether it is to all appearances spontaneous. In this latter event it is prone to show the influence of heredity and is a mutation. General infantilism arranges itself naturally into these same two biological classes. As a fact in the first class the infantilism owes its appearance to two circumstances. One of these is a cause or causes, whatever they may be, but these causes are not in themselves sufficient to produce infantilism, seeing that they may be in operation, even in a concentrated form, without producing so much as a slighter defect of development. This is the case, for example, with the disease toxins, which are among the most important exciters of infantilism. That such causes are by themselves ineffective is proved by the fact that, though their distribution is very common and very widespread, infantilism is comparatively rare. What is needed to produce infantilism is the second and still more important factor, which consists in that cryptic tendency to vary which constitutes the basis of all fluctuations Infantilism of this kind is, therefore, the outcome of an intrinsic or inherent tendency to developmental inhibition assisted by an environment suitable for its production This form of variation is *symptomatic*, seeing that it is the expression of the action of a morbid agent or agents and is of a decadent or regressive type, not making for the improvement of development, but for its deterioration Consequently the causes of this infantilism must invariably be of a deteriorating or damaging kind, such as the disease toxins, deficiency of food, hardship, overwork, or degeneration affecting some special locality of the body As befits a fluctuation it is usually of minor degree, of gradual rather than of abrupt onset

In the second class the infantilism is "idiopathic," spontaneous, or essential In this and in other respects its salient features are of the sort which characterises all mutations Not only does it occur independently of cause or environment, but it begins with comparative suddenness, is, as a rule, of pronounced degree and often hereditary This last feature is by itself sufficient to stamp its nature as a mutation, for it proves that it must be dependent, not upon any contemporary environment, but upon some deep seated remote biological events

CLASS I —SYMPTOMATIC GENERAL INFANTILISM — INFANTILISM AS A FLUCTUATION

The causes of symptomatic infantilism are of two kinds, the one being some poison or other deleterious influence equivalent to a poison introduced from without the other the product of some perversion of one or more of the organs of the body which act upon its development either by means of a secretion or in some more occult manner It is possible that there is a third group due to the withholding of some food or food stimulus essential to the proper development of the body

Symptomatic infantilism may therefore be either (A) toxic, or (B) correlative or possibly (C) deprivational

A TOXIC INFANTILISM

The poisons capable of setting up infantilism are many, the most important being the products of fungi or protozoa living within the body Chief among these are the toxins of syphilis tubercle, malaria, enteric fever, pellagra, scarlet fever, measles, leprosy, and of those organisms responsible for the chronic diarrhœal diseases of infancy Other poisons are introduced from the outside either from saprophytic fungi, as in the case of the yeast plant, or from plants of higher order, such as the poppy or tobacco Lastly, they may be inorganic—as lead mercury, bisulphide of carbon

B CORRELATIVE INFANTILISM

It is recognised that under ordinary conditions there is a strong tendency for standards of growth of one part of the body to harmonise with standards of growth in other parts Each part bears a certain relation to all other parts And this correlation exists not only under normal conditions but is also manifested when conditions are abnormal We have only to witness what happens to the soft tissues when part of a long bone is destroyed, or, still better, when the bone prematurely ceases to grow, to realise that the correlation which exists between the growth of the bone and of the muscle, skin, vessels, and other soft tissues which cover it can readily be adjusted to abnormal conditions In rickets and in achondroplasia, moreover, these adjustments are often very considerable, so that the whole body with its contained organs is occasionally dwarfed in size in order to accommodate it to the abnormal shortening of the bones of the limbs

Adjustments of this sort are not confined to affairs of growth but are also to be witnessed where development is concerned Thus for æons of time it has been the custom for the ripening of the sex organs to coincide with an impulse of skeletal development which rapidly advances the framework of the body to maturity, and this maturation of the skeleton coincides with, or is immediately followed by, corresponding changes in the soft tissues in general It is the fashion now to attribute all these coordinated changes to the influence of a secretion proceeding primarily from the sex glands reinforced by secretions from other endocrine organs But it is possible that we may be a little too hasty in coming to conclusions of this nature, for there is no reason to suppose that bodily correlations are accomplished solely by chemical stimuli emanating from ductless glands Correlations of growth and of development take place in plants, although as yet no one has been able to detect the influence of secretions There is also a period in the evolution of animal forms and in the development of the higher metazoa in which there are important correlations prior to the development of the ductless glands In all these cases the stimulus to correlation appears to be of the nature of a habit or of mnemonics, whereby an act of development in one organ leads to associated acts in other organs Out of this primitive mechanism of correlation the more elaborate machinery of the endocrine organs seems to have been evolved as a more perfect method of accomplishing the same end But it is important to realise that many of the correlations of the body may still to a large extent be prompted by other methods than by the hormones or by inhibitory secretions manufactured in special organs of correlation

Hence in the production of infantilism we sometimes meet with cases which cannot be accounted for by toxic influences, which are apparently not due to the withholding of food or of food stimuli, but seem to be due solely or partly to the influence of correlation In some cases this influence seems to proceed from the derangement or incapacity of an endocrine organ In other cases it is difficult to account for the infantilism on this score The morbid condition apparently arises as the result of correlations of the more primitive type in which the hormones are not concerned

Correlative infantilism may, therefore, be of two kinds (*a*) endocrinous, and (*b*) simple correlative

(*a*) *Endocrinous Infantilism*

There is at present no criterion by which we can decide when any particular infantilism is to be regarded as of endocrinous origin Only one form of infantilism has so far satisfactorily been proved to be due to the absence or defect of an internal secretion, and this is *thyroid infantilism* In this case three requirements are fulfilled 1 Local examination of the gland shows that it is inadequate 2 The administration of the gland or of its extract to a normal person produces symptoms opposed to those which characterise the infantilism 3 The gland or its extract given to the infantilate counteracts the symptoms characteristic of the infantilism Ought we to demand that these three stipulations should be satisfied before we can admit the endocrinous origin of other kinds of infantilism? If so, it can

Lorain than of Brissaud's type, would either not be recorded, or, if recorded, would be confused with symptomatic infantilism. One may venture to suggest that the two cases of infantilism of Lorain type in sisters, published by Ettore Levi,[4] are of this nature. The facts that this infantilism was familial, that there seems to have been no definite cause, that it was of abrupt onset, and the development almost stationary, point to this explanation. At the same time one of the cases was associated with some pituitary enlargement, and this must needs throw some doubt on the exact nature of both of them. They will be referred to again later on.

Ateleiosis of the second class has a striking individuality. Ordinarily ateleiotics of this kind can be recognised at a glance, for they are clearly to be distinguished from achondroplasics, cretins, and other forms of symptomatic infantilism. Their infantile appearance and proportions, as shown in their comparatively big heads, short limbs, small faces, roundness of outline, and in the configuration of their chests and abdomens, serve to distinguish them at once from cases of symptomatic infantilism. An exception must, however, be made in the case of cretins, and possibly of some examples of pituitary infantilism. But the sharp intelligence of the ateleiotic, the clear definition of his physiognomy, distinguish him at once from the stupid, puffy, and ungainly cretin. In achondroplasia the coarseness of type and the conspicuous dachshund deformity are characteristic. Fröhlich's pituitary infantilism is, as a rule, signalised by a peculiar lumpy fatness of the face and trunk and by a florid, purplish hue of the cheeks.

The somatic features of ateleiosis of the first and second classes are so pronounced that when these ateleiotics mix with the public they attract great and embarrassing attention. This is partly their own fault, for they have a way of dressing as miniature men, so that what is incongruous about them is the appearance of childhood with the setting of maturity. Those who adopt the clothes suitable for childhood or infancy, and go about with adults, have no difficulty in escaping unwelcome curiosity. This was well shown in two cases under my observation, in one of which a boy of 14 dressed and posed as a baby without anyone detecting the deception. He for a time played the leading rôle at one of the London theatres, coming on alternately as a baby in arms and as a man about town, and acting both parts with intelligence and distinction. The other, almost until the age of 30, had no difficulty in passing himself off as a child, so that he travelled on the railway with a half ticket without comment. After that age his slightly wizened appearance led to his age being questioned, and he could not longer carry on the deception. Both these cases were examples of asexual ateleiosis. Sexual ateleiotics have more marked physiognomies, more assurance, more mature figures, so that apart from their facial hair they are not so likely to be mistaken for children.

Although ateleiosis is conveniently divided into three classes, it must be recognised that these divisions are artificial, and that, just as it occurs in early fœtal life and is confused with other causes of abortion, so also it may not begin until after puberty and perhaps account for the juvenile appearance of some middle-aged people.

Sporadic Occurrence.

The sporadic appearance of ateleiosis is a noteworthy feature. Common or symptomatic infantilism seems to favour large centres of population where the conditions which give rise to it are rife. Plumbic, alcoholic, malarial, syphilitic infantilism must be more common in those parts in which there is more exposure to lead, alcohol, malaria, or syphilis, and similarly with other forms of symptomatic infantilism. On the other hand, it is possible that ateleiosis, although scattered in its distribution, may be more common in some parts than in others, and the same is true of other sporadic diseases, such as sporadic cretinism and osteomalacia. Possibly it is more common in Italy and France, where the standards of height and of duration of life are a little lower than they are in America, in Great Britain, and in Scandinavia, where stature and development strike a higher average. On the other hand, a large number of ateleiotics met with in variety shows come from Germany or from Austria. Evidently but little can be said upon this topic until ateleiosis is more widely known and reliable figures are forthcoming.

Ateleiosis is Essentially an Infantilism and not a Dwarfism.

Although there can be no doubt that the asexual form is a pure infantilism, the sexual form is sometimes described as "dwarfism," and even as "essential dwarfism." The decision as to what constitutes dwarfism and what infantilism turns upon the nature of growth and of development. If sexual ateleiosis be an affair of growth it is dwarfism; if it be an affair of development it is infantilism. Now, I think it can be satisfactorily shown that it is an arrest of development. This is best accomplished by taking for our example a characteristic and well-known case. And we can hardly do better than select for our type case Charles Stratton, widely known as General Tom Thumb. Although it is true that we have but few details about him, and no accurate measurements of his height, yet we have all that we require for present purposes. In the first place his height, physiognomy, and proportions were conspicuously undeveloped. His nose was of a turned-up or snub pattern, and his face, as shown in some of his earlier portraits, taken when he had reached maturity, was short, his forehead vertically rounded. His body was of childish conformation, not only in respect to its roundness of outlines and to the shape and proportions of thorax and abdomen, but also as to the comparative length of trunk and limbs and of the segments of the limbs. In all these respects he showed stereotyped childhood. Indeed, one may go farther, and say that his formation was immature in respect to his height, for whereas his height was undoubtedly childish his proportions and conformation were infantile. So that whether we regard him from the point of view of his age or of his height his was a case of infantilism. In other words, he was not only conspicuously undergrown but was also underdeveloped. As for his sexual and mental development, they apparently arrived at maturity, for his wife, an ateleiotic of remarkable similarity, gave birth to a child. To make sure of this fact I have got the death certificate of this child, Minnie Warren Stratton. It certifies that she died at Norwich in 1866, at the age of 2 years, from "congestion of the brain," with convulsions.

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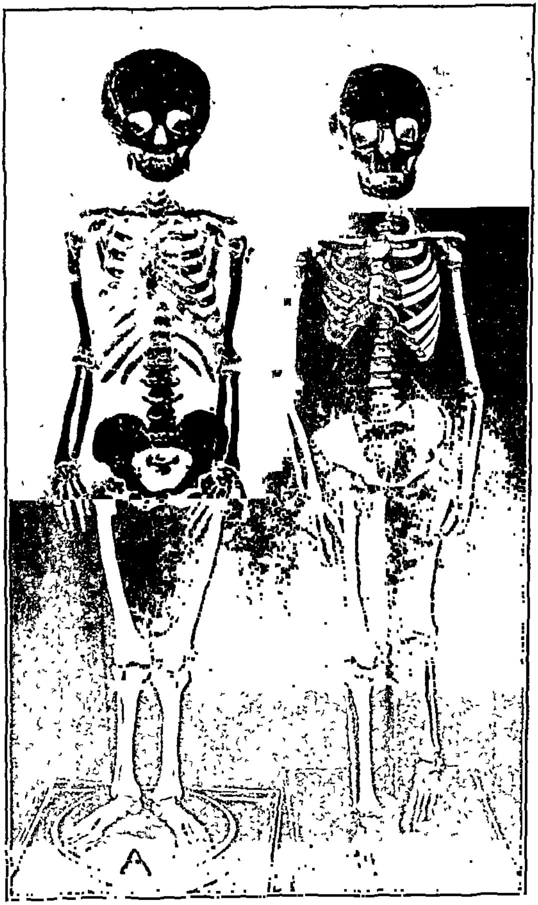
[4] Nouvelle Iconographie de la Salpêtrière, tome xxi., 1908, p. 300.

The many important details missing in this outline sketch of Charles Stratton may be filled in from the records of other cases, especially from Rischbieth's description of the Magri family and Ettore Levi's of the Magro family, both of which may be found in the "Treasury of Human Inheritance."

Account of a Specimen in Anatomical Museum of Cambridge University.

I have recently seen a skeleton bearing every evidence of being that of a sexual ateleiotic which serves admirably to demonstrate the infantilate characters. This valuable specimen is in the anatomical museum of the University of Cambridge, and I am greatly indebted to Professor Macalister for permission to examine the skeleton and to have photographs taken. Some of these photographs I now show you. In one it is standing beside the skeleton of a normal child of six. (See figure.)



The ateleiosis skeleton (A) at Cambridge standing beside the skeleton of a child of six.

On the label which goes with the skeleton it is written: "The Skeleton of a Dwarf purchased in Paris and presented by Professor Humphry.—It is the skeleton of a man who had passed the middle period of life. The epiphyses are all ankylosed, the sagittal sutures and the upper part of the lambdoidal are closed, the masseteric, deltoid, and some other muscular ridges are rather pronounced, and there are bony outgrowths from the margins of some of the bodies of the vertebræ. All the upper molar and premolar and two incisor teeth, as well as the lower premolar and two molars, are gone and their alveolar processes have been absorbed. The bones are all well formed and well proportioned one to another."

Professor Sir G. M. Humphry has also published a short description of it elsewhere,[5] in which he says: "The dimensions are as follows: Height, 41 in. (104 cm.); skull, greatest circumference, 19 in. (48·2 cm.): antero-posterior measurements, 6·6 in. (16 cm.); transverse, 5·2 in. (13 cm.); vertical, 4·4 in. (10·8 cm.); spine (skull to sacrum), 13·5 in. (33·7 cm.); clavicle, 3·5 in. (8·5 cm.); scapula, 4·5 in. (11·5 cm.); humerus, 6·9 in. (17·2 cm.); radius, 5·2 in. (12·9 cm.); hand, 4·3 in. (10·5 cm.); pelvis between the iliac spines, 7 in. (17·7 cm.); transverse of brim, 3·2 in. (7·9 cm.); antero-posterior (conjugate), 2·2 in. (5·3 cm.); femur, 10 in. (25·4 cm.); tibia, 8 in. (20·4 cm.); and foot, 5·8 in. (14·4 c.m.)."

In the same article Professor Humphry referred to other dwarfs, including Bébé, Boruwlaski, Charles Stratton, Jeffrey Hudson, and to the pygmy tribes in Africa, and contrasted with these elegant dwarf skeletons "an ill-proportioned and unseemly skeleton from rickets" (osteogenesis imperfecta) which he had also presented to the museum.

In Professor Humphry's first case there is evidence that the arrest of development was greater than the arrest of growth. Thus, when we compare it with the skeleton of a normal child of six, which was just one inch shorter, the dwarf skeleton seems to be the younger in the following particulars. The trunk is longer and the limbs shorter, especially the upper limbs. The thorax is much more conical, like that of an infant. It tapers markedly from the eighth rib upwards, whereas in the child the thorax is of the usual pattern for a child of 6 and much more like to that of the adult. The hands and feet are relatively smaller. One of the most obvious of the signs of immaturity, and which specially serves to stamp the skeleton as ateleiotic, is the marked shortness of the face as compared with the height of the skull; and of still more significance is the presence of a conspicuous depression at the root of the nose. Moreover, the nasal bones, which are short, project in a way which indicates that the nose during life was of the tip-tilted or snub kind. In all these particulars the dwarf skeleton is infantilate. And this is also manifested in the state of the mastoid process and of the mandible, as well as of the upper maxilla. These are of infantile type, the infantilism of the mandible being shown by the depth of the body and by the slope of the ramus. In the frontal region similar immaturity is indicated by the contour of the forehead and by the infantile appearance of the supraorbital region.

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[5] Brit. Med. Jour., 1891, vol. ii., p. 1157.

This short and very imperfect account of this interesting skeleton will serve to show that it certainly did not come from a race of dwarfs and that there is no known pathological condition except ateleiosis which could account for the appearances found. And this ateleiosis was evidently of the sexual variety, seeing that all the epiphyses are fused, that the muscles during life were evidently of good development, and that apparently the only part which is in advance of the child's skeleton from a morphological point of view is the pelvis. Although there is arrest of growth constituting dwarfism, this is not so pronounced as the arrest of development or infantilism. Evidently the infantilism is the essential feature and at the bottom of the whole series of changes. In some respects this skeleton shows evidences of maturity, although these are superimposed upon those of infantilism. Thus the pelvis, as we have just seen, though still of childish pattern, is more expanded and of more advanced type than that of the child, and this is what we might expect in the skeleton of a sexual ateleiotic. The bones, though elegantly formed, are slightly thicker than those of the child, and their muscular prominences and grooves are decidedly more conspicuous. This is particularly to be noticed in the bones of the arms, forearms, and mandible. In the mandible there is a thin flange of bone projecting prominently from the angle of the otherwise infantile jaw. In the advanced state of its epiphyseal ossification the skeleton is frankly adult.

To sum up the peculiarities of this specimen we may say that in some respects it is like that of a child of about 6 years of age, in others it is infantile, and in yet others it is adult. Of all these features the primary and dominant are those which indicate infantilism. The skeleton is that of a male affected with sexual ateleiosis. The irregularities we have noticed indicate that ateleiosis is more than a mere abnormality. It is associated with disturbances of growth and of development and is therefore a disorder.

Other Skeletons.

So far four dwarf skeletons bearing evidence of pronounced delay of development have been recorded. One was described by Schaafhausen, of Bonn, another by Arnold Paltauf, of Vienna, another is in the museum of the Royal College of Surgeons of Edinburgh, and the fourth is in this museum. In the Vienna and the Edinburgh specimens the sella turcica is moderately enlarged. Schaafhausen does not mention the state of the sella in his case. In the specimen in this museum the sella is normal. In the skeleton of the Cambridge dwarf there also appears to be nothing abnormal about the base of the skull. Although the skull-cap has not been taken off it is possible clearly to see the whole of the base through an aperture in the top of the skull, and also to examine it with the finger passed through the foramen magnum. The part played by the pituitary body in infantilism will be dealt with more fully in my next lecture.

The ateleiotic skeleton in this museum appears to be unique. It is that of Caroline Crachami, in whom the disorder evidently began during fœtal life. It is therefore an example of ateleiosis of the first class. Death took place at the age of 9 years. In addition to this skeleton there is also present in the museum a portrait in oils of the living Caroline Crachami, and in the library is a short account of her written by Sir Everard Home. We have therefore the great advantage of getting important knowledge of the case from three different aspects. These all tend to the conclusion that Caroline Crachami was an example of fœtal asexual ateleiosis. I have myself published a somewhat inadequate description of this case[6] and Professor Keith[7] has elsewhere made some observations upon it in a paper which contrasts the skeleton with that of a case of progeria, also in this museum.

Relations of Sexual and Asexual Ateleiosis.

Of still more importance in serving to stamp sexual ateleiosis as a form of infantilism rather than of dwarfism is the fact that, generally speaking, there is no line of demarcation between sexual and asexual ateleiosis. There are cases which show all gradations between them. In some cases of sexual ateleiosis there is evidence of great delay in the maturation of the sex organs. Thus in the case of Boruwlaski growth did not cease until he had attained the age of 30, and he himself says in regard to his sexual state and perceptions that "at the age of 25 I was like other young lads of 15." He married at 40 and had three children of ordinary stature. Yet two years after his marriage he was still a child in appearance, and this childishness was the occasion of many ludicrous mistakes. For example, the doctor who attended his wife during her first pregnancy could not for a time be made to understand that the little fellow who stood by the bedside was not a child but was Boruwlaski himself and the lady's husband. Boruwlaski's account of himself is very reliable, for he was a gentleman of great intelligence, and of charming simplicity and uprightness of character. His history, size, physiognomy, and proportions all show that he was undoubtedly an example of ateleiosis.

There are yet other cases on record in which ateleiosis was at first of the asexual and afterwards of the sexual variety, the sexual defect having continued until long after the individual had arrived at maturity.

I have myself seen and published a case[8] in which ateleiosis ran through three generations, the father and grandfather being sexually perfect, whereas the grandson at the age of 14 had the sex organs of a new-born child. Ettore Levi[9] has also under the heading of "microsomie essentielle" described a similar case occurring in two generations, in which a father sexually perfect but of conspicuously infantile physiognomy and proportions (sexual ateleiosis) is pictured side by side with his ateleiotic child aged 12½ years with bilateral cryptorchidism It is possible that in course of time these two children will acquire adult sex characters, but whatever may happen in after life their condition as described is that of asexual ateleiosis, for it is not essential to our conception of that disorder that the infantilism of the reproductive organs should persist throughout life In many cases it doubtless does so persist, in others sexual development is seriously delayed, and in others it is normal. But the point I wish now to bring forward is that we must regard all these manifestions of idiopathic sporadic hereditary infantilism as belonging to one group We ought not artificially to separate them into dwarfs and infantilates. The fundamental change is one of development. All are examples of infantilism, whether the evidences of developmental defect be small or great Such evidences are present in greater or lesser degree in all cases, and combine with other characters to form a syndrome which is distinct from that furnished by any other morbid condition

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[6] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxv., 1903; Disorders of Post-natal Growth and Development, 1911, p. 593.

[7] THE LANCET, Feb. 1st, 1913, p. 312.

[8] The Disorders of Post-natal Growth and Development, 1911, p. 536.

[9] Nouvelle Iconographie de la Salpêtrière, tome xxiii., 1910, p. 522.

CENTRAL MIDWIVES BOARD—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Feb 19th, Sir Francis H Champneys being in the chair A letter was considered from the Local Government Board transmitting copies of the Order requiring the notification of all cases of ophthalmia neonatorum The Board decided (*a*) that the Local Government Board be thanked for their communication and be asked whether in respect to any future Orders proposed to be issued by them which affect in any way the duties of the Central Midwives Board under the Midwives Act, 1902, or the rules made under the Act, a confidential draft could be laid before the Central Midwives Board for their consideration before it is finally settled, and (*b*) that the chairman be asked to confer with the Local Government Board or their principal medical officer on the Ophthalmia Neonatorum Order just issued A letter was considered from a certified midwife complaining of her suspension by the local supervising authority The Board directed that the county medical officer of health be reminded that no case of suspension not imposed by the proper authority, reported to the Board and recorded in its register, could be upheld by the Board

DONATIONS AND BEQUESTS—The late Mr G C Dobell, of Liverpool, has left £1250 to the Royal Infirmary for the endowment of a bed and £200 each to the David Lewis Northern Hospital, the Royal Southern Hospital, the Stanley Hospital, and the Hospital for Women —The Royal [illegible] val Hospital for Incurables, [illegible] 00 under the will of the [illegible] owing bequests to London [illegible] of the late Mr Charles Ansell have now become payable—namely, £50 000 to King Edward's Hospital Fund for London, £10,000 each to Charing Cross, Middlesex, St George's St Thomas's, Westminster, Guy's St Bartholomew's, and the London Hospitals, an [illegible] King's College H[illegible] al Free Hospital, [illegible] ospital, Brompton Hospital for Consumption and Diseases of the Chest, City of London Hospital for the Diseases of the Chest, Royal Hospital for Diseases of the Chest, London Fever Hospital, London Lock Hospital, Royal London Ophthalmic Hospital, Royal Orthopædic Hospital Queen Charlotte's Lying in Hospital, National Hospital for Diseases of the Heart, Hospital for Diseases of the Throat, Nose, and Ear, Royal Hospital for Sick Children and Women, Great Ormond street Children's Hospital, and Victoria Hospital for Children.

THE MORBID ANATOMY OF TUBERCULOSIS IN MAN[1]

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THERE must be few in this gathering who have not formed very strong opinions upon the subject of tuberculosis, either from experience at the bedside or as the result of long continued research in the laboratory. To each of us, doubtless, our own opinions possess the great merit of satisfying the canons of common sense and reason But many difficulties are in the way of those who, like myself on this occasion, have to attempt to collate and coördinate these varied opinions, and have to present a reasonable and connected account of even one department of work upon tuberculosis I have come to the conclusion that it is impossible to reconcile these opposing views, and I think that it will be better to discuss them in the light of my own experience, and in doing so shall advance from the general to the more particular.

A. *Statistics dealing with Large Numbers of Individuals*

It will prove useful, to commence with, to inquire what information can be gained by the study of tuberculosis as it attacks large numbers of individuals of both sexes, at all age periods, and in different countries and cities, and to use the results to correct local experiences and data. With this end in view I have investigated the Registrar Generals' returns in England and Scotland, and the results are shown in the following tables.

TABLE I—*Death rates from Tuberculosis in England and Scotland, per Million Living, at 11 Age periods.*

Abstracted and calculated from the Registrar Generals' reports England, 1891–1900, Scotland, 1891–1900, 1901–1910

Age-periods	England 1891 1900			Scotland					
				1891 1900			1901 1910		
	All tubercle	Phthisis	Tubercle not phthisis	All tubercle	Phthisis	Tubercle, not phthisis	All tubercle	Phthisis	Tubercle, not phthisis
All ages	2010	1391	619	2361	1684	677	2090	1380	710
0–5	3930	413	3517	3841	516	3325	3760	403	3357
5–10	724	206	518	1165	376	789	1170	300	870
10–15	669	363	301	1196	745	451	1090	560	530
15–20	1396	1144	252	2435	2124	361	1930	1510	420
20–25	1936	1730	206	2979	2701	253	2430	2100	320
25 35	2302	2135	167	3014	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35–45	2742	2592	150	2772	2617	155	2310	2100	210
45–55	2492	2362	130	2093	1971	122	1980	1790	190
55–65	2007	1881	126	1632	1573	109	1560	1380	180
65–75	1263	1154	109	1105	1021	84	1090	910	180
75 upwards	612	437	75	542	466	76	502	391	111

The most notable fact brought out by Table I is that in countries so closely related as England and Scotland the conditions of life and apparently the possibilities and modes of infection are so different that the maximum death rate from tuberculosis is reached in England during the 35 to 45 age-period, whereas in Scotland it is reached during the 25 to 35 age-period. The table also shows the predominance of other forms of tuberculosis than phthisis (tabes mesenterica, "scrofula," meningitis, osteitis, and arthritis) in the earlier age-periods, and their progressively diminishing importance as age advances. Further, taking Scotland alone, it will be noticed that while the death-rate from phthisis is steadily falling, being 168 per 100,000 living in the decennium 1891–1900, and 138 per 100,000 living in the decennium 1901–1910, thus continuing the decrease noticed during preceding decennial periods, the death-rate from other forms of tuberculosis, on the contrary, seems actually to be rising at each age-period.

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[1] Being a report presented at the International Conference on Tuberculosis at Berlin, Oct 23rd, 1913

Table II. shows the differences in the corrected death-rates from tuberculosis in different burghs in Scotland during the first six months of 1913, the statistics available for that period being the first in which the deaths are all referred to the burgh of which the deceased had been an inhabitant.

TABLE II.—*Scotland, January to June, 1913. Corrected Death-rates in certain of the Larger Burghs.*

—	Population to middle of 1913.	Total deaths from all causes.	Deaths from tuberculosis—		
			Total number.	Per 100 of all deaths.	Per 1000 of population living.
All Scotland	4,733,700	39,417	4369	11·08	1·84
Perth	20,200	291	28	9·60	2·77
Greenock	77,800	762	106	13·90	2·72
Inverness	21,300	194	26	13·50	2·44
Glasgow	1,021,500	9,442	1178	12·40	2·30
Paisley	85,600	691	92	13·30	2·15
Coatbridge	43,400	361	45	12·46	2·07
Dundee	165,900	1,522	169	11·10	2·03
Falkirk	35,600	259	33	12·70	1·85
Aberdeen	162,700	1,562	150	9·90	1·84
Edinburgh	320,300	2,474	286	11·56	1·78
Kirkcaldy	40,000	287	34	11·80	1·70
Airdrie	24,000	185	14	7·50	1·16
Forfar	10,400	85	4	4·70	0·77
St. Andrews	15,000	80	5	6·25	0·66

It is evident that these rates do not vary in correspondence with the numbers or density of the population. Local conditions must exist, such as variations in the rainfall, different habits of life, and other factors which react on the local death-rate.

Death-rates at Different Age Periods.

Hillenberg gives in one of his papers a table (Table III.) showing the death-rates from tuberculosis per 10,000 living in Prussia at all ages. The corresponding rates per 1000, per 100,000, and per 1,000,000 can readily be calculated. Hillenberg's table shows an increase in the tuberculosis death-rates, progressing more or less regularly from the 5 to 10 age-period, to the 60 to 70 age-period, at which the maximum is reached. In the male there is a progressive increase to the 50 to 60 age-period, whereas in the female it is practically stationary between the 20th and 40th years, and after that year it sinks, except for the 60 to 70 age-period.

TABLE III.—*Tuberculosis Death-rates per 10,000 living in Prussia during the Year 1909.*

Age.	Male.	Female.	Both sexes.
0 to 1	24·92	22·35	23·65
1 ,, 2	17·01	15·52	16·17
2 ,, 3	8·87	8·96	8·91
3 ,, 5	6·17	6·01	6 09
5 ,, 10	4·00	4·99	4·49
10 ,, 15	4·02	6·77	5·39
15 ,, 20	11·64	14·64	13·13
20 ,, 25	20·76	20·46	20·61
25 ,, 30	18·59	20·29	19·44
30 ,, 40	20·71	20·98	20·85
40 ,, 50	25·21	16·17	20·60
50 ,, 60	32·18	17·26	24·30
60 ,, 70	30·88	19·83	24·80
70 ,, 80	20·91	15·20	17·69

My results for Scotland for the decennium 190 1910 are different, and though presenting the actu figures in Table IV., a clearer demonstration afforded by drawing out graphic curves, t regularity of which speaks for their approxima correctness. (See Chart.) For the purpose simplifying this procedure the Scottish Direct of Medical Statistics, Dr. Crauford Dunlop, has ha the rates determined for me per 1000 living, and gladly acknowledge his kind help in these difficu calculations.

TABLE IV.—*Scotland, 1901–1910. Death-rates p 1000 Living at Different Age-periods. All form of Tuberculosis ; Phthisis ; Abdominal Tube culosis ; Malignant Disease.*

Age-periods.	All tubercle.		Phthisis.		Abdominal tuberculosis.		Malignant disease.	
	M.	F.	M.	F.	M.	F.	M.	F.
All ages...	2·17	2·00	1·41	1·34	0·22	0·21	0·75	1·09
0 to 1...	6·79	5·35	0·56	0·47	2·01	1·44	0·02	0·01
1 ,, 2...	6 39	5·32	0·73	0·62	1·76	1·55	0 02	0·03
2 ,, 5...	2·37	2·15	0·34	0·33	0·68	0·57	0·03	0·02
5 ,, 10...	1·09	1·25	0·24	0·37	0·26	0·29	0·01	0·01
10 ,, 15...	0·85	1·34	0·34	0·78	0·15	0·18	0·02	0·01
15 ,, 20...	1·67	2·20	1·28	1·75	0·09	0·13	0·03	0·03
20 ,, 25...	2·48	2·38	2·15	2·05	0·07	0·09	0·05	0 05
25 ,, 35...	2·54	2·49	2·28	2·22	0·05	0·09	0·12	0·19
35 ,, 45...	2·41	2·22	2·20	2·00	0·04	0·08	0·43	0·87
45 ,, 55...	2·42	1·58	2·21	1·41	0·04	0·05	1·53	2·42
55 ,, 65...	2·08	1·11	1·87	0·97	0·04	0·03	3·93	4 64
65 ,, 75...	1·50	0·79	1·30	0·62	0·03	0·04	6·60	6·69
75 ,, 85...	0·69	0·49	0·58	0·33	0·02	0·01	7·85	8·03
85 upwards	0·35	0·17	0·24	0·13	0·00	0·00	7·14	7·74

The highest death-rate occurs during the firs year of life. It then falls rapidly until the third t fourth year is reached, then somewhat more slowl to the 5 to 10 age-period. Thereafter, in the *femal* it rises slowly during the 10 to 15 age-period rapidly during the 15 to 20 age-period; and agai slowly during the 20 to 25 age-period, to reach maximum between 25 and 35; then it falls gradu ally during the later periods, the curve after the 3 to 45 age-period being slightly concave upward In the *male* the fall continues until the 10 to 15 ag period is reached; then rises rather abruptly, bu remains much lower than the female rate durin the 15 to 20 age-period. During the 20 to 25 ag period it rises above the female rate, and continue above it during the remaining age-periods, the curv having, in contrast to that of the female, it *convexity* upwards, thus indicating a very con sider able increase over the female death-rat particularly between about the forty-fifth and seventieth years.

Upon these curves I have superimposed others showing the death-rates in each sex from phthisis pulmonalis, abdominal tuberculosis, and from all forms of malignant disease. The contrast between the phthisis death-rates and the general tuberculosis death-rates is striking during the earlier years; and in the later years the apparent diminished incidence of tuberculosis on the female sex is shown to be, in part at least, accounted for by the greater number of deaths from malignant disease, not to mention the accidents of pregnancy. Whence I conclude that we should not build too much upon the apparent diminution of the death-rate in the female sex, at the later ages, which is shown in Hillenberg's table.

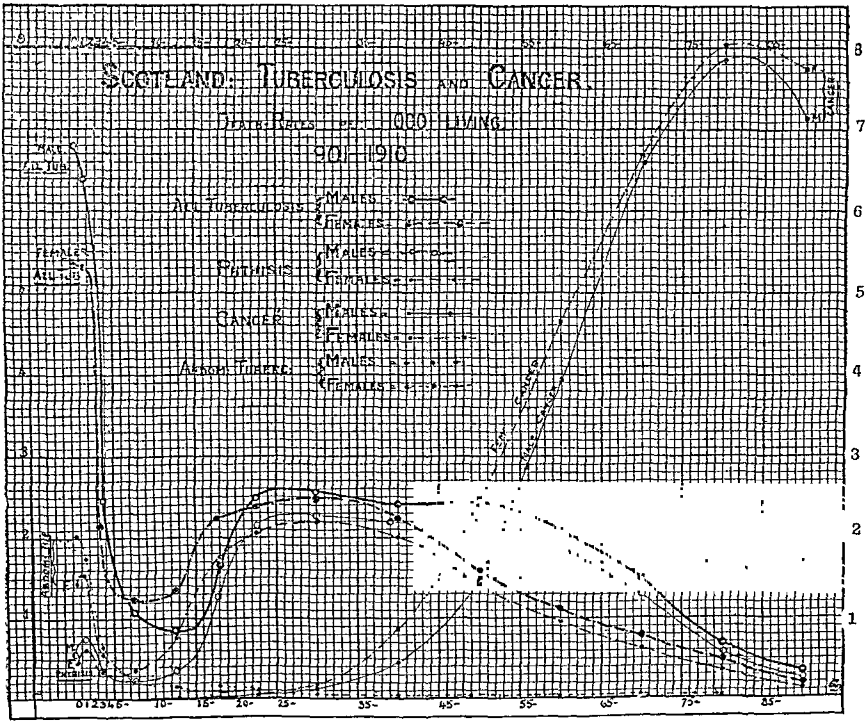

Chart showing the death-rates in Scotland during 1901-10 for tuberculosis and cancer. (See Table IV.)

The next table (No. V.) shows the tuberculosis death-rates in relation to the death-rates from all causes and at all ages. While this table is not suited for discussion but more for leisurely contemplation, I would draw attention to one fact shown by it—that is, that during the 15 to 20 age-period the female death-rate in Scotland from tuberculosis is over 50 per cent. of the total deaths in the female sex at that period. The corresponding maximum rate in the male is reached during the 20 to 25 age-period. Another feature is the rapidly progressing increase in the percentage death-rate from all forms of tuberculosis, and also from phthisis, during the successive quarters of the first year of life.

B. *Hospital Statistics.*

Following upon these general statistics I wish now to present some statistics derived from the post-mortem records of the Edinburgh Royal Hospital for Sick Children.

Although only to a modified degree applicable to tuberculosis as a disease affecting the whole country, data derived from hospital sources in large centres are, nevertheless, of great interest. In judging their value one must bear in mind that the majority of the inmates of such institutions come from the poorer and generally more badly housed and fed classes of the community. I have formerly used portions of these records for two papers, published in 1900 and 1909. For the purpose of preparing this report my successor, Dr. Carnegie Dickson, has very kindly allowed me to consult the records for the last three years, those for the period intervening between 1902 and 1910 not being immediately available.

During the periods June, 1886, to April, 1902, and December, 1910, to August, 1913, 1416 children of all ages up to the age of 14 underwent post-mortem examination. Out of that number 562, or 36 per cent., either died from tuberculosis or having died from other causes showed evidences of tuberculous infection in a latent active or latent inactive stage. Latent cases formed not more than about 4 per cent. of the total number of tuberculous cases. In point of fact, if one were to judge from experience of necropsies only, the remarkable absence of traces of tubercle in the children who died from other diseases would almost justify the opinion that practically all children infected with tuberculosis sooner or later die from that disease. This is practically the view held by Geipel.

TABLE V.—*Scotland, 1901–1910. Death-rates per cent. of Deaths from all Causes: Tuberculosis and Malignant Disease.*

Age-periods.	All tuberculosis.			Phthisis.			Abdominal tuberculosis.			Malignant disease.		
	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.	M. & F.	M.	F.
All ages	12·60	12·78	12·42	8·31	8·30	8·31	1·29	1·30	1·28	5·57	4·39	6·74
0 to 3/12	0·80	0·83	0·73	0·05	0·04	0·05	0·32	0·34	0·30	0·01	0·01	0·01
4/12 to 6/12 ...	5·70	5·60	5·70	0·46	0·44	0·50	2·15	2·09	2·15			
7/12 to 1 year ...	7·90	8·20	7·60	0·91	0·94	0·86	2·42	2·64	2·12			
1–2	12·56	13·14	11·91	1·45	1·51	1·39	3·55	3·61	3·48	0·06	0·05	0·06
2–5	18·63	19·52	17·73	2·74	2·76	2·69	5·15	5·60	4·71	0·20	0·21	0·20
5–10	27·72	26·77	28·62	7·16	5·80	8·44	6·46	6·57	6·55	0·32	0·34	0·25
10–15	38·33	31·74	44·27	19·57	12·67	25·80	5·79	5·62	5·95	0·46	0·60	0·32
15–20	46·62	40·56	52·69	36·50	31·07	41·96	2·69	2·17	3·22	0·69	0·77	0·62
20–25	46·95	46·45	47·47	40·63	40·23	41·03	1·62	1·35	1·89	1·02	1·00	1·04
25–35	38·24	38·18	38·28	34·12	34·22	34·04	1·06	0·80	1·31	2·39	1·84	2·91
35–45	24·74	24·59	24·91	22·44	22·40	22·48	0·65	0·45	0·86	7·03	4·37	9·76
45–55	12·59	13·90	11·11	11·40	12·72	9·92	0·31	0·24	0·38	12·71	8·82	17·09
55–65	5·00	6·02	3·93	4·43	5·40	3·43	0·11	0·11	0·11	13·81	11·35	16·37
65–75	1·83	2·27	1·44	1·52	1·96	1·13	0·06	0·05	0·07	11·16	9·98	12·20
75–85	0·47	0·52	0·43	0·35	0·44	0·29	0·01	0·02	0·00	6·54	5·93	6·98
85 upwards ...	0·09	0·13	0·07	0·07	0·09	0·05	0·00	0·00	0·00	2·93	2·60	3·11

The following table (No. VI.) analyses my cases, divided into the age-periods used by de Besche. The ages were given in 1277 out of my 1416 cases.

TABLE VI. (*Shennan*).

Ages	0 to 1	1 to 3	3 to 5	5 to 14	—
Total number ...	381	418	171	307	= 1277
Non-tuberculous	314	236	86	144	= 780
Tuberculous ...	67	182	85	163	= 497
Percentages ...	17·6	43·5	49·7	53·1	

Table VII. is made up from de Besche's paper.

TABLE VII. (*de Besche*).

Ages	0 to 1	1 to 3	3 to 5	5 to 14	—
Total number ...	58	28	14	34	= 134
Non-tuberculous	44	17	7	14	= 82
Tuberculous ...	14	11	7	20	= 52
Percentages ...	24·2	39·3	50·0	58·8	

Sehlbach's percentages are as follows: 0 to 1 year, 7·2 per cent.; 1 to 3 years, 26·1 per cent.; 3 to 5 years, 50 per cent.; 5 to 9 years, 47·5 per cent.

In Table VIII. my results are arranged so as to afford a comparison with H. Albrecht's percentages.

TABLE VIII.

Ages	0 to 1	1 to 6	6 to 14	—
Total number...	381	650	246	= 1277
Non-tuberculous	314	353	113	= 780
Tuberculous	67	297	133	= 497
Percentages (Shennan) ...	17·6	45·7	54·0	
Percentages (H. Albrecht)	14·6	44·0	50·0	

From perusal of these tables it will be seen that my Edinburgh results correspond more closely with those of Albrecht than with those of de Besche and Sehlbach.

Statistics presented in the above fashion are regarded as proving the statement that as age increases the incidence of tuberculosis also rises; but if my cases are separated into single year periods the appearance of a regular increase is not so evident. (Table IX.) In agreement with this result Sehlbach concludes that the percentage increase is not so regular in post-mortem cases as would appear to be the case during life from clinical observations, to judge from the results of the cutaneous (von Pirquet) and percutaneous (Escherich) reactions (Reuschel, Hamburger, McNeil).

It is probably hardly advisable to attempt to draw hard-and-fast conclusions as to the general incidence of tuberculosis from such statistics as these, particularly as they can be manipulated so as to show discordant results. I think that more correct information is afforded by the earlier tables I have given dealing with great numbers of individuals, even allowing for errors in diagnosis, the effect of which is lessened, the larger the number of the cases under review.

Particulars of the Edinburgh Cases.

In my former papers (1900 and 1909), based upon the records of the Edinburgh Sick Children's Hospital for the years 1886 to 1902, I analysed the cases of tuberculosis in some detail, but I may restate here shortly some of my conclusions and add others.

Sex incidence.—Of the children who died from tuberculosis at all ages up to 14, males predominated over females in the proportion of 55·1 to 44·8; but if these numbers are calculated in relation to the numbers of each sex dying in the hospital from all causes and examined post mortem, I find that 40·6 per cent. of the females died from tuberculosis, compared with 38·8 per cent. of the males, so that the sex incidence does not correspond with that for the whole of Scotland. (See Tables IV. and V.)

TABLE IX.

Ages	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-14
Total number	381	269	149	92	79	61	58	54	38	32	25	22	17
Non-tuberculous	314	161	75	52	34	31	23	30	12	19	12	9	8
Tuberculous	67	108	74	40	45	30	35	24	26	13	13	13	9
Percentages	17·6	40·1	49·6	43·5	57·0	49·2	60·3	44·4	68·4	40·6	52·0	59·1	52·9

Of the 497 children who died from tuberculosis (Table VI.) 334 were 5 years old or under. If Cobbett is correct in stating that one-third of all cases of tuberculosis under the age of 5 years are caused by infection with the bovine bacillus, then 112 cases—i.e., 8·7 per cent. of the total number of children (1277), or 22·5 per cent., of the tuberculous cases—were infected from bovine sources. I shall, however, have more to say on this subject in connexion with tuberculosis of cervical lymphatic glands and of bones and joints.

Tuberculosis of lymphatic glands.—In the cases occurring during the period 1886–1902 the lymphatic glands showed evident tuberculosis in 83·7 per cent. The thoracic glands were affected in 69·2 per cent. and the abdominal glands in 54·4 per cent., both thoracic and abdominal glands in 39·9 per cent., the thoracic glands alone in 29·5 per cent., and the abdominal glands alone in 13·5 per cent. The corresponding figures for 1910–1913 were 69·4, 53·1, 45·0, 29·7, 15·3, 13·5. This is shown more clearly in tabular form. (Table X.)

TABLE X.

	1886-1902	1910-1913
Lymphatic glands tuberculous	83·7	69·4
Thoracic glands tuberculous	69·2	53·1
Abdominal glands tuberculous	54·4	45·0
Both groups affected together	39·9	29·7
Thoracic glands alone tuberculous	29·5	15·3
Abdominal glands alone tuberculous	13·5	13·5

These results are of interest in showing that the percentage diminution in the case of thoracic gland tuberculosis is considerable, whereas that of abdominal gland tuberculosis has remained practically stationary. An explanation of this may be found in the fact that for the last 25 years institutions (Tuberculosis Dispensary and Hospital) have existed in Edinburgh, whose efforts have been directed towards the control of open tuberculosis in man, and hence may have helped to reduce the chances of infection from human sources, though one must not forget the steady reduction in the tuberculosis and phthisis death-rates which has been going on since the middle of last century. (See also Table I.)

Relationship of tuberculosis of lymphatic glands to other tuberculous lesions.—During the 1886–1902 period, the mediastinal glands (root, bronchial, and tracheal) were tuberculous in 33 cases, or 11·7 per cent., without evidence of any tuberculosis of the lungs, whether recent or chronic. The abdominal glands (mesenteric, retroperitoneal, cœliac, and hilic) were caseous in 105 cases, or 47·5 per cent., without any ulceration of the intestines and in 73 cases, or 33 per cent., without any excavation of the lungs. Ulceration of the intestine without excavation of the lungs was found in no fewer than 111 cases, or 22·5 per cent., of the whole series (1886–1902 and 1910–1913). Taking the whole number of tuberculous cases, 497 (Table VI.), the immediate cause of death was tuberculous meningitis in 228 cases, or 45·8 per cent.

These statistics prove again what I have always held—viz., that statistics showing the incidence of tuberculosis in any one country or city must not be accepted as wholly applicable in the case of any other country or city. I wish to emphasise this point very strongly, as it is constantly disregarded.

The Nature and Modes of Infection in Tuberculosis: General Considerations.

Before passing on to discuss the morbid anatomy of tuberculosis in relation to infection in that disease, I must refer to Cornet's localisation law, and consider whether any alteration of opinion with regard to that law is necessary in view of recent work upon the nature and course of primary infections, secondary infections, and reinfections, upon hypersensitiveness (allergy) and immunity, upon latency of tubercle bacilli and lymphoid hyperplasia.

Cornet's localisation law.—This law, which has been recognised more fully on the continent than in Great Britain, states that the portal of entry, at least in tuberculosis, is invariably indicated by the fact that a primary lesion is produced at the point at which the infective agent has invaded the body, as well as by the concomitant disease produced in the regional lymphatic glands of the organ first attacked, and which are therefore related to the point of entry.

Many important authorities now maintain that the facts which have been disclosed in connexion with the development of increased susceptibility to infection, following a primary inoculation with a bacterium, have so profoundly altered our conception of the course of an infection that Cornet's law no longer holds, or at least that it requires to be modified in important respects.

Primary and secondary infections and re-infections, hypersensitiveness, &c.—Bartel and Neumann, Hart, and others state that if an experimental animal already inoculated with tubercle bacilli be injected with virulent tubercle bacilli the resulting disease takes a course quite different from that taken by a first infection. For example, secondary metastatic lung tuberculosis can be produced under these conditions without an appreciable lesion at the point at which the secondary infection has taken place, the lungs having apparently become very susceptible to metastatic infection, whereas the rest of the body has become increasingly resistant. Arguing from these experimental results, these authors conclude that, as doubtless human phthisis in most cases develops in an organism which has been already *once* infected, the post-mortem appearances can no longer be trusted to decide the portal of entry of the virus. With Oettinger and Wittgenstein they hold that the lungs react, even though only a few bacilli reach it. Austrian comes to a similar conclusion. On the other hand, Hamburger, Römer, Sata, and others maintain that a small reinfecting dose is of no effect in producing disease, that diminished infectiveness is shown to a moderate-sized reinfecting dose, but that immunity is actually decreased to a large reinfecting dose of bacilli.

Latency of tubercle bacilli.—The above question is associated with the fact, which is now well recognised, that tubercle bacilli may lie latent in the lymphatic glands, possibly for long periods of time (von Behring, Weichselbaum, Bartel, Harbitz), and these authors state that a reinfection may occur from these glands without visible histological changes in the gland tissue. But Beitzke shows that a spread of tubercle bacilli by the blood stream never takes place in the child during the latent stage, or it occurs only under exceptional circumstances. In his positive cases the latent bacilli were always found in glands which drained a possible portal, and never in peripheral glands; hence those glands could not have been infected through the blood stream. Further, Beitzke has never succeeded in demonstrating the presence of latent bacilli in the lymphatic glands in children without being able at the same time to detect, either with the unaided eye or with the microscope, evidences of their presence and action, and he concludes, apparently with good reason, that an isolated tuberculosis, wherever it is situated, indicates with great certainty the portal of entry. Joest and Emshoff agree with him that in experimental animals true latency of tubercle bacilli in lymphoid tissue cannot be proved, seeing that they could always detect histological changes. Steffenhagen and Ungermann consider that latency in glands is rare in childhood. Whipple found that bacilli which had penetrated the mucous membranes without producing visible local lesions caused disease in the regional glands in the great majority of instances. One must bear in mind that in the human subject the regional glands are much more numerous than in the ordinary experimental animals, and constitute a succession of barriers to invasion, tending to act, particularly in the child, as a bacteria-proof filter. There is also justification for the belief that the longer the bacilli lie latent the greater is the tendency for their virulence to diminish, although other recognisable characteristics may remain unaltered (Kossel, Weber and Heuss; Weber and Steffenhagen; Neufeld, Dold, and Lindemann; Gratia, Moeller, Lignières, and others), a state of active immunity, doubtless imperfect in most cases, being in the meantime gradually established. I would also suggest that we should not neglect to consider the possibility that in natural human infections virulent bacilli lying apparently latent in lymphatic glands may have entered the body recently—more recently, in point of fact, than is indicated by the age of tuberculous processes already present in the body. Natural infection in tuberculosis is often a repeated infection by small numbers of bacilli.

For the above reasons, therefore, excluding cases in which a generalised blood infection has involved the lymphatic glands simultaneously with the other organs and tissues of the body shortly before the fatal event, I would conclude that a tuberculosis of lymphatic glands indicates an infection from the portal or organ drained by them; and that usually the primary portal of invasion is indicated by the greater age of the tuberculous process in its regional glands. One cannot equally affirm the invariable correctness of the other part of Cornet's localisation law—viz., that a local lesion is always found at the point of entry, it being now generally conceded that tubercle bacilli can penetrate an apparently normal mucous membrane without leaving a trace of their passage. The important observations on allergy, or hypersensitiveness, contributed chiefly by the Vienna school, afford an explanation of the views, already strongly held and fully appreciated, that a tuberculosis of the bronchial glands does not necessarily in every case locate the primary portal of infection in the lungs, seeing that infective agents, at whatever point they enter the body sooner or later reach the lungs and their regional glands. Similarly it is recognised that a tuberculosis of the mesenteric glands, either with or without ulceration of the intestine, is not always of necessity a deglutition tuberculosis. Hence, while I cannot admit the correctness of Baumgarten's view that an inhalation tuberculosis is never a primary pulmonary tuberculosis, but a generalised tuberculosis, I believe that a primary infection, in addition to causing the lesions in the regional glands guarding the portal of entry, may be followed by a lymph-hæmic spread and development of tuberculous foci, it may be of somewhat chronic course, in different organs. This would, for example, explain those puzzling cases in children in which isolated and contemporaneous, chronic, caseous, or fibro-caseous foci are found in lungs, kidneys, spleen, liver, and occasionally in the meninges, in association with the rapidly progressive recent lesions which have brought about death.

Lymphoid hyperplasia.—Bartel was the first to direct attention to the fact that one of the first results of invasion of the lymphatic glands by tubercle bacilli was a hyperplasia, and he regards this change as somewhat characteristic; but Beitzke demonstrated clearly that other causes can produce the same alteration, and while admitting that a relationship undoubtedly exists between tuberculosis and lymphoid hyperplasia, he claims that the latter is not pathognomonic of tuberculosis. Otherwise one might be tempted to assume a relationship between lymphatism also and tuberculosis. There seems to be no doubt that the lymphatic glands are especially prone to tuberculosis (Steffenhagen, de Besche, H. Albrecht, Ely, Rillet and Barthez, Guthrie, Still, Shennan, Leslie, Burckhardt, Stirnimann, Engel, Escherich, Hamburger, Kossel, Finkelstein, Lapage and Mair, and others). As a matter of fact, tuberculosis of the child is generally regarded as essentially of the nature of a tuberculous lymphadenitis. Possibly this predisposition may be more apparent than real, seeing that guardians of a portal, under ordinary conditions thoroughly efficient, may be overcome by an excess of an invading host.

Baumgarten, Bongert, and Oehlecken succeeded in infecting lymphatic glands by way of the blood stream in the case of experimental animals. Huguenin reports a remarkable case of generalised tuberculosis of the lymphatic glands in a woman 82 years of age, the other organs of the body being apparently unaffected.

The Portals through which Tubercle Bacilli Invade the Human Body.

Tubercle bacilli may enter the body at any part of the cutaneous surface, or at any point in the various (internal) channels and passages communicating with the surface. The cutaneous and genital route (inoculation) is seldom taken, and of the internal channels the respiratory and the alimentary tracts afford the readiest access to the body. Before one may attempt to determine which of these two is the more important, it is essential to have accurate knowledge of the finer anatomical relationships of these tracts to the lymph- and blood-vascular systems, and it is also essential that the conclusions drawn must be in harmony with what we know of general pathological processes in man and of infection generally. I am afraid that a considerable amount of the almost overwhelming literature on tuberculosis, if submitted to these tests, would have to be rejected.

The respiratory tract.—Seeing that most authorities agree that the tubercle bacillus enters the human body most easily and most frequently through some part of the respiratory tract, it seems fitting to discuss this portal first. In doing so it will be necessary to refer to opposing views as to the greater importance of invasion by way of the alimentary tract, and perhaps it will be better to focus attention on the question of the portals of invasion in tuberculosis of the lungs and their regional glands (the bronchial glands, including the hilic or root glands).

This question has been the one most debated of recent years, and the alteration in the general outlook of many writers upon this subject illustrates the remarkable extent to which the pendulum of authoritative scientific opinion may swing in *diametrically opposite directions.* Before 1903, when von Behring presented his views on the universality of alimentary infection during early life, and on the latency of tuberculous infection. and the elaboration and extension of these views by Baumgarten, Weichselbaum, Bartel and Neumann, Ritter and Vehling, Calmette and his followers, Vansteerberghe and Grisez, Guèrin, Whitla, and many others, everyone believed that pulmonary tuberculosis was the result of an air-borne and respiratory infection, except in certain cases in which it was metastatic—i.e., secondary to a primary tuberculosis elsewhere in the body. But now some authors, some of whom I have mentioned, hold that the portal of primary invasion in man in tuberculosis is *always* the alimentary tract, and that tuberculosis of the lungs is invariably lymph-hæmic in origin, and never directly aerogenic. In all vocations and activities of life extreme views, though often undoubtedly leading to progress, are not infrequently found to be unsafe guides. Tuberculosis, I submit, cannot be an exception to this rule; as has already been shown, in point of fact, in connexion with the view that man never suffers from bovine tuberculosis. It is evident, as Bulloch puts it, that the question is not so much one of aerogenic *versus* ingestion or deglutition, as of aerogenic *versus* lymph-hæmic invasion of the lungs and bronchial glands, and I may proceed to state the arguments supporting or opposing the different main theories.

Aerogenic infection.—Till comparatively recently, and, I think, depending on some old experiments of Pasteur, it was held that if air be respired through the proper channels—that is, through the nasal cavities—to the lower respiratory passages it reaches the pulmonary alveoli in a sterile condition, the organisms and other suspended particles being deposited mechanically on the surfaces of these channels. Arguing on the same lines, while not denying that air, inspired by individuals who live in close association with open cases of pulmonary consumption, does contain tubercle bacilli, many authorities hold that these bacilli do not reach the *ultimate bronchioles and vesicles, but become* entangled in the mucus of the bronchi, and being carried upwards in this are swallowed or expectorated by the individual. While granting that this does take place, there seems absolutely no reason to doubt that tubercle bacilli, entering with the inspired air, can and actually do succeed in reaching the vesicles. Many experimenters—e.g., Beitzke and Cobbett—have clearly demonstrated that dust particles and bacteria (e.g., B. prodigiosus) can readily penetrate to the ultimate air passages and vesicles. Further, the balance of opinion is on the side of the view that guinea-pigs and cattle can be more readily infected with tuberculosis in inhalation experiments than in feeding experiments and with a comparatively small number of bacilli.

The pneumonoconioses.—Passing away from tuberculosis for a moment, let us now consider the manner in which the lungs become pigmented in the pneumonoconioses or "dust diseases." In the case of anthracosis or coalminers' lung all the evidence from the side of morbid anatomy favours the aerogenic origin of the pigmentation in the human being. Even granting that Calmette and his followers are correct in holding that pulmonary anthracosis can be developed in laboratory animals by feeding with carbon, except in the case of very young animals, why is it that in man, at whatever *age the body be examined, so little evidence can be* found of the passage of carbon through the intestinal walls and through the mesenteric and retroperitoneal lymph nodes? No doubt in the adult one occasionally sees accompanying extreme pigmentation of the lungs some moderate carbon pigmentation of the glands above the lesser curvature of the stomach, but similar pigmentation of the *mesenteric* glands at any stage of pulmonary anthracosis is very rare, if indeed it ever occur at all to any appreciable extent. The amount of carbon pigmentation of the cœliac and hilic glands can readily be explained by the absorption from the upper part of the alimentary tract of minimal quantities of the carbon which has been swallowed entangled in the mucus of the respiratory tract, or which has been conveyed by lymphatics from the pleura over the surface of the liver to the hilic glands. The abdominal pigmentation is of secondary importance and certainly does not indicate a primary alimentary portal.

A still stronger argument can be deduced from the morbid anatomy of silicosis or lithosis of the lungs—stonemasons' lung. This disease, as is well recognised, predisposes to tuberculosis, and Cesa Bianchi has demonstrated that it is easier to infect guinea-pigs with tubercle bacilli after they have been made to inhale different kinds of dust, but at present I am concerned with silicosis as a dust disease only. In the most extreme case of silicosis I have seen, in which I had to use the saw to make sections of the lungs, I found considerable pigmentation and condensation of the hilic and cœliac lymphatic glands, but no similar changes were found in the mesenteric and lower retroperitoneal glands. One cannot accept the view that these abdominal glands could possibly have permitted the passage of such quantities of siliceous and carbon particles as were required to produce the stony hardness and dense pigmentation of the lungs and bronchial glands. As a matter of fact, no one seriously denies that the lung condition in silicosis is directly due to aerial convection of the siliceous particles. Another important point is that the area *of greatest condensation of the lung in silicosis* extends from the root upwards and outwards, just in the position in which tuberculosis so often attacks the lung in early adult life. Silicosis is certainly aerogenic, why not tuberculosis, at least in the adult?

Again, supposing that in primary pulmonary tuberculosis the infective agent is invariably carried to the lung in the blood stream, then we should expect in most cases to find the two lungs with their regional glands affected to an approximately equal extent, but this is not usually the case in man, even in the child. Both Still (1901) and I myself (1900) independently remarked the greater prevalence of tuberculous caseation of the bronchial glands on the right side. Albrecht has also noticed the same feature. Out of 183 cases I found the glands more affected or alone affected on the right side in 123 (67·2 per cent.); and in 60 cases (32·8 per cent.) those on the left side showed either a more advanced tuberculosis or were alone affected. It has been absolutely proved (Beitzke, Hart, Most, and others) that these glands are the regional glands of the lungs, Weleminsky's theory that the bronchial glands act as a sort of lymph heart, receiving all the lymph of the body by special channels from the upper and lower parts of the body, having now no authoritative support.

Even in view of the anatomical fact that the glands related to the right bronchus are more numerous than those related to the left bronchus, we have to explain the greater tendency of tuberculosis to attack these right bronchial glands as a group.

Furthermore I find that out of 127 cases of excavation of the lungs in children under the age of 15, in 28 per cent. the cavity or cavities were limited to the left lung, in 42 per cent. to the right lung, while in the remaining 30 per cent. both lungs were affected. Taken along with the greater prevalence of tuberculosis of the regional glands of the right lung, this affords another strong argument against the hæmic origin of pulmonary tuberculosis as being the rule. I have ascertained that in Edinburgh the medical officers connected with the Victoria Tuberculosis Hospital and Dispensary find that phthisis pulmonalis more often begins on the right side. In the child the slightly greater size of the right lung is insufficient plea to advance against my argument, and there is absolutely no reason to suppose that the right lung rather than the left is a *locus minoris resistentiæ*. I should also expect that the distribution of the lesion in a blood infection would more regularly bear a close analogy to that of the abscesses and embolic infarcts in cases of pyæmia. The capillaries of the lungs are the widest in the body, and they allow small emboli to pass through, which are subsequently caught in the smaller capillaries, for example, of the kidney. Now renal caseous tubercles are by no means commonly found at post-mortem examinations, except in young children.

I am, therefore, forced to the conclusion that in the adolescent and adult a hæmic infection of the lungs is by no means so important as the aerogenic infection in the vast majority of cases of pulmonary tuberculosis. It is reasonable to suppose that the tubercle bacillus, like other morbific agents in nature, takes the shortest route and the line of least resistance to reach its goal, and in the case of the lungs this route is the aerial.

But, while to my mind the above conclusions are rational and true, they by no means exclude the hæmic route as a channel by which the lungs may be attacked, particularly if hypersensitiveness has developed, and especially in children. For the settlement of this difficult question the work of Weichselbaum, Bartel and Neumann, and that of Calmette and the French school generally, afford us real assistance, because it is difficult to understand why the lungs should be so vulnerable. At first sight one would suppose that these organs, constructed as they are of fibrous and elastic tissue, covered with strongly phagocytic epithelium and endothelium, and richly supplied with blood through both the pulmonary and the bronchial arteries, should be highly resistant to the attacks of an organism like the bacillus tuberculosis, to which man as a class has developed some measure of immunity.

Hart and Cobbett maintain that the lymphatic glands guarding the alimentary portal are better trained in defence against organismal invasion than are those guarding the respiratory portal. As Hart says, the former have been the battleground (Tummelplatz) of countless millions of organisms, whereas the barriers to be crossed before organisms can enter the respiratory tract are so efficient that few of them reach the bronchial glands to train them to resistance. This is true to a certain extent, but is not sufficient to explain the great frequency of tuberculosis of the respiratory tract, and, further, Calmette claims that, when properly administered, no greater number of bacilli are required to cause an alimentary infection than a respiratory one.

The true condition of matters would seem to be that in primary lung tuberculosis there is no special hypersensitiveness of the lungs to tuberculous infection, but that primary infections are due to long-continued attacks of tubercle bacilli, whether from the air or from the blood. The conditions are altered, however, when hypersensitiveness has developed. Robert Koch was the first to show that an animal after being infected once with tuberculosis becomes more susceptible to the action of the same organism when reinjected. This doctrine has been elaborated by von Pirquet, Weichselbaum, Bartel, and others, and is now well recognised under the name of allergy given to it by von Pirquet. It is unnecessary to discuss the relationship of allergy to immunity. It will suffice to say that many believe that an extremely small dose of the infective agent on reinoculation may increase the resistance, while a considerable reinfecting dose leads to severe pathological changes, with, in the guinea-pig, tuberculosis of the lungs, as well as the tuberculosis of the spleen which commonly follows a primary infection. Austrian maintains, in opposition to the above, that even a minute reinfecting dose may cause severe pulmonary changes in an allergic animal. Bartel and Neumann regard the lung in every form of tuberculous infection as a *locus minoris resistentiæ*. H. Albrecht refers to the possibility that a widespread interference with the lymphatic circulation may render the thoracic organs more liable to infection by the production of a *habitus phthisicus*.

The date of reinfection is evidently of importance, and if a considerable reinfection occur comparatively shortly after a primary infection it will ordinarily be followed by rapidly progressing tuberculosis, and apparently the resistance of the lungs especially is reduced. This would explain the extensive and rapidly progressing caseous pulmonary tuberculosis which we so often see in early childhood, in many cases spreading into the lung from caseous root glands.

This does not exhaust the possibilities in childhood. I believe that in early years a lymph-hæmic infection of the lung is not uncommon; but in view of what I have already said one must walk warily, and consider not merely the condition of the lungs as seen post mortem, but also that of the other organs, and especially the solid abdominal organs. I have observed in many cases of tuberculosis in infants that small caseous or fibro-caseous nodules occur in small numbers in the spleen, kidney, liver, in one or both lungs, and occasionally in the meninges.

These are only very exceptionally associated with excavation of the lungs, either recent or advanced. They may be associated with tuberculous ulceration of the intestine, but more often accompany tabes mesenterica and tuberculosis of the bronchial glands. The nodules in the lungs may be located at any point, but are frequently peripheral. Now this association of contemporaneous foci in widely separated organs must indicate a blood or lymph-*hæmic infection.*

Very little, so far as I know, has been done in the way of determining, by animal inoculation and separation of the causal organism, the type of the bacillus causing these lesions and its probable portal of entry. The other aspect of the question is also interesting—namely, how seldom these caseous foci appear to be associated with pulmonary excavation, and this problem also deserves further attention.

In these cases it is not permissible to regard the caseous or fibro-caseous pulmonary focus as necessarily the primary focus in the body, and I think H. Albrecht is in error in doing so. It also raises the question whether, even if one finds a small chronic focus in the lungs, one can state dogmatically that this is the focus from which the bronchial gland tuberculosis also present has originated. This may be due to a separate new aerogenic or lymph-hæmic infection.

(To be concluded.)

A COMPARISON OF THE ACTIONS OF CHLOROFORM AND ETHER ON THE BLOOD PRESSURE.[1]

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SINCE dealing briefly with this subject on a former occasion,[2] when my remarks were confined entirely to the action of the two anæsthetics during their administration, I have endeavoured to follow up my observations and to extend them *to the period subsequent to operation.* The result of those observations is a corroboration of the view which I previously expressed—viz., that in presence of severe shock chloroform anæsthesia is preferable to ether. In support of this the blood pressure observations of which I am going to make use are taken from a series of 211 cases, of which 120 are chloroform administrations and 91 ether administrations. Wherever practicable one or two readings have been made some time previously to operation, one reading on the patient's arrival in the theatre, and as frequent readings as possible [illegible] t has often been difficult [illegible] early part of the adminis-[illegible] as the disturbing effect on the patient, during struggling it has not been possible. Latterly, in addition to those readings, observations have been continued for some time after the operation—for 48 hours, or in some cases longer.

The instrument which I used in estimating the blood pressure was Martin's modification of the Riva-Rocci sphygmomanometer, and in all cases the systolic pressure is referred to.

In classifying anæsthesia I have made use of four stages: (1) the stage of excitement; (2) the stage of light anæsthesia; (3) the stage of surgical anæsthesia; and (4) the danger stage.

It is necessary to preface my remarks on the blood pressure by pointing out that it is influenced by causes other than the action of the anæsthetic. The principal of these are shock and collapse. Crile defines shock as "a condition resulting from a fall in general blood pressure due to exhaustion of the vaso-motor centres," and collapse as "a condition resulting from a fall in the general *blood pressure due to inhibition of the vaso-*motor centres or a loss of the circulation fluids." Mummery, in his Hunterian lectures,[3] stated that "shock may be produced in two main ways: (1) by injury to important afferent nerve paths; and (2) by exposure or injury of the abdominal viscera." He further points out that the former of those two causes may at first cause a rise of blood pressure, due to stimulation of the pressor fibres which sensory nerves contain, but later, on those becoming exhausted, a fall, due to stimulation of the depressor fibres; and also that no structural changes accompany shock, as evident from the fact that no lesions are found in persons dying from shock, and that when recovery takes place it is complete.

As to the direct action of the two anæsthetics on the blood pressure, independently of intercurrent factors, based on experimental and clinical observations there is unanimity of opinion that chloroform causes a fall, but that the effects with ether vary, no very pronounced change taking place. The following charts are a very few examples, taken from typical cases, illustrating the behaviour of the blood pressure under the two anæsthetics. The illustrations have been divided into two classes, those in which the operation involved a slight degree of shock, and those in which it involved a severe degree of shock.

1. *Cases in which the Operation Involved a Slight Degree of Shock.*

(*a*) *Chloroform.*—In this class the blood pressure, after the fall which accompanies the induction of anæsthesia, remains at about the same level until the latter part of the operation, when, along with a less deep anæsthesia, it begins to rise again. For some hours after the operation there is usually a slight drop, followed by a rise to a point a little below the patient's normal.

CASE 1.—A man, aged 56, a moderate drinker. Arteriosclerosis; chronic bronchitis. Heart: Loud second sound at aortic area; no murmurs. Operation: Cystotomy; removal of papilloma. Anæsthetic: Chloroform on open mask, then by Vernon Harcourt inhaler; 35 minutes. After violent struggling during induction the pressure fell 68 mm. At this point the anæsthesia was very deep, and with a lighter anæsthesia the next reading was 23 mm. higher. Towards the end of the operation a further rise took place. One hour after the operation the pressure had risen to a point about the patient's normal. Then, four hours after the finish of the operation, a considerable fall took place, followed by another rise. There was some hæmorrhage after the operation. (See Chart 1.)

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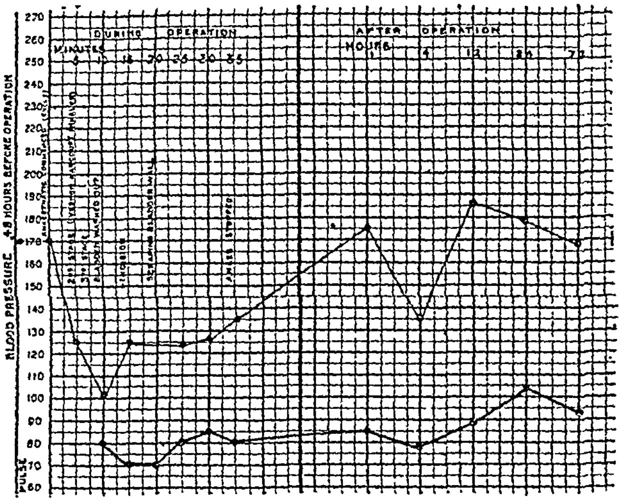
[1] Part of a thesis for the degree of M.D.

[2] Practitioner, February, 1911.

[3] THE LANCET, March 18th (p. 696) and 25th (p. 776) and April 1st (p. 846), 1905.

In this case the pulse became slower with a falling blood pressure. It is very unusual to get such a pronounced fall in blood pressure as occurred in this case, though patients whose normal blood pressure is high usually show a marked fall with the induction of anæsthesia by chloroform. This patient's pressure 48 hours before operation was 170 mm.

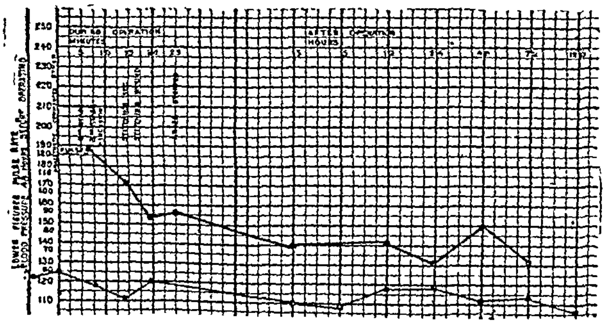
Chart 1.



(*b*) *Ether.*—The induction of anæsthesia is not usually marked by any pronounced change in the blood pressure level. There may be a slight rise or a slight fall. In this first class where the operation causes little shock the early part of the operation is usually accompanied by a slight fall, after this the pressure remaining fairly constant. Afterwards the pressure rises to a point near the patient's normal.

Case 2.—A man, aged 24. Heart and lungs normal. Operation: Radical cure of inguinal hernia. Anæsthetic: Ether by Clover's inhaler; 26 minutes. The pressure fell slightly during induction and again 7 mm. early in the operation, rising slightly towards the end of anæsthesia. Afterwards the readings were a little lower until at 12 hours a rise was recorded almost to the normal level. The pulse-rate fell very decidedly during anæsthesia, much more than is usual with ether. (See Chart 2.)

Chart 2.



It will be noticed that the reading taken on arrival in the theatre is higher than that taken on the day previous to operation. This is the rule in most cases and is probably to be attributed to nervousness. Janeway says that "mental excitement is the most powerful cause of increased pressure in the normal man."[4]

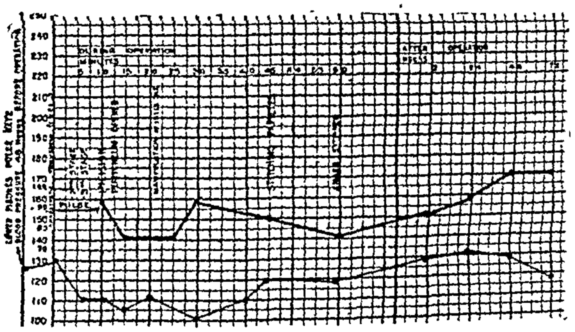
2. *Cases in which the Operation Involved a Severe Degree of Shock.*

The best illustrations of this class of cases are abdominal sections, as any intra-abdominal manipulation is productive of shock.

(*a*) *Chloroform.*—After the initial fall of blood pressure due to the anæsthetic any surgical procedure causing shock produces a second fall. The pressure remains low during the early part of the operation, beginning to rise with the closing of the wound. The early readings after operation usually indicate a slight fall, then a gradual rise takes place to about the patient's normal level.

Case 3.—A stout, nervous girl, aged 25. Heart and lungs normal. Operation: For ventral hernia. Anæsthetic: Chloroform on an open mask; 58 minutes. The excitement stage was accompanied by struggling and screaming. The fall in blood pressure after the peritoneal incision was small; during the manipulation of viscera, however, a decided fall was observed. Following this there was a progressive rise. Unfortunately very few readings could be taken after operation, none being taken between 2 and 24 hours. Both indicated a progressive rise. (See Chart 3.)

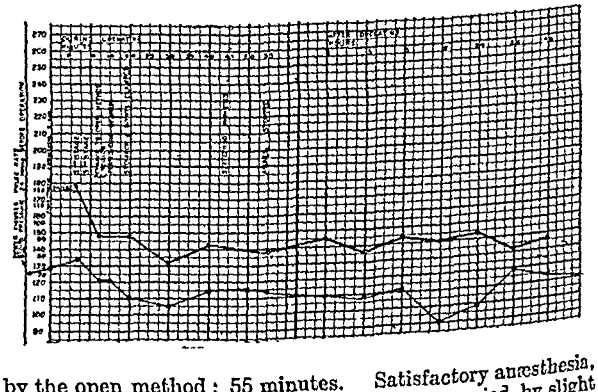
Chart 3.



(*b*) *Ether.*—As a rule, the level reached by the blood pressure in the early stages of surgical shock during ether anæsthesia is not so low as during chloroform anæsthesia. But as the operation advances, and towards its finish, there is a tendency for the pressure to remain low or even to go lower; and during the early hours after the patient's return to bed this downward tendency is still in evidence, there being often an interval of 12 hours or more before a rise commences.

Case 4.—A well-built but somewhat ill-nourished man, aged 32, a moderately heavy drinker. Heart and lungs normal. Operation: Gastro-enterostomy for dilated stomach. Anæsthetic: Ether by Clover's inhaler for 12 minutes, then by the open method; 55 minutes. Satisfactory anæsthesia, the induction, lasting eight minutes, accompanied by slight struggling. At 11 minutes, just before the incision, the blood pressure had fallen 8 mm. (after a preliminary rise). During the first part of the operation there was a fall of

Chart 4.



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[4] The Clinical Study of the Blood Pressure, p. 119.

15 mm., then, during the latter part of the stitching of the [illegible] rise of 10 mm., the level then [illegible] five minutes before the finish [illegible] ading in the theatre indicated a slight fall, and this was continued afterwards. Nine hours after the operation a very decided fall to 90 mm. occurred. From this point there was a rise. (See Chart 4.)

I will now sum up the effects of the two anæsthetics on the blood pressure.

(*a*) *Chloroform.*—A fall of pressure is produced throughout the administration of chloroform. With the establishment of full anæsthesia this fall amounts to at least 10 mm. and sometimes considerably more; along with this the pulse beats slower and a varying degree of pallor is present. Surgical shock during chloroform anæsthesia produces a slight further fall of pressure. With the withdrawal of those two depressants—chloroform and shock—the blood pressure exhibits a tendency to rise rapidly, and very often soon reaches a point a few millimetres below the patient's normal.

(*b*) *Ether.*—Little alteration of the blood pressure is produced by ether. It may cause a rise, it may maintain a constant level, or it may cause a fall. It causes more rapid and more forcible cardiac action, with dilatation of the smaller vessels (as evidenced by the flushing which occurs), the latter probably counteracting the former in maintaining the blood pressure level almost constant. With intercurrent shock a considerable fall of pressure takes place, a fall almost equal to the combined effects of chloroform and shock. The subsequent recovery after severe shock is slow, some time elapsing before the blood pressure approaches the normal level.

What influence do those considerations have in the choice of the anæsthetic? In answering this question it is again necessary to differentiate with regard to the nature of the operation into (1) those cases in which only slight surgical shock is to be anticipated, and (2) those cases in which severe shock is to be anticipated.

1. *In slight surgical shock.*—In all cases chloroform causes considerable lowering of the blood pressure, whereas, in this class of cases, there is but little lowering of the blood pressure under ether. With the latter anæsthetic, therefore, the margin of safety is greater than with the former. In this class ether is the anæsthetic of choice.

2. *In severe surgical shock.*—At the end of an operation in this second class the blood pressure shows more tendency to reaction with chloroform than with ether, there is a more decided and better maintained rise with the former. This consideration, it seems to me, should go a long way as a guide to the choice of anæsthetic. At a time when it is of vital importance that patients should be able to make use of all their resources, after chloroform anæsthesia they are better able to do so than after ether.

I do not wish to ignore in any way the danger of chloroform as evidenced by the rapid fall of blood pressure which it produces, particularly in the early stages of its administration. The only death under anæsthesia which I have had occurred under chloroform eight minutes from the time of commencing the administration, and before the operation had been commenced.[5] This case and other less serious experiences have been quite sufficient to impress upon me the care which is necessary in making the choice of anæsthetic, and in the use of chloroform where it is chosen.

But there is another point of view, and one the value of which it is much more difficult to estimate. I mean the relative safety of the two anæsthetics with regard to the period immediately succeeding operation. Is it not possible that the anæsthetic may play a part in causing or averting death in the period subsequent to operation, as well as in the chances of rapid recovery? It must also be remembered that the chloroform danger can be lessened by employing ether for inducing anæsthesia, in this way getting over the most dangerous part of the administration. Under those circumstances a change to chloroform produces a less decided fall of blood pressure than where chloroform is used throughout.

After weighing up all those considerations I think that, in this second class, chloroform is the anæsthetic to be chosen; the induction of anæsthesia, however, being effected by means of ether. In this paper it must be understood that I am only considering the two anæsthetics as they affect the circulation, and especially as they affect the blood pressure.

The observations which led up to those conclusions extended over a period of three years, and were quite independent of work done by others, as only latterly have I consulted the literature on the subject. I find that most of the writers have formed conclusions entirely opposed to my own. At the same time, all the writers whom I have consulted base their opinions on the fact that during anæsthesia chloroform produces a fall in blood pressure, ether does not; and as far as I have been able to discover no one has continued observations on the behaviour of the blood pressure subsequent to operation.

Mummery made a series of observations on blood pressure during operation.[6] From these he came to the following conclusions:—

> There is a marked rise in the blood pressure in the early stages of ether anæsthesia, and the net result of all the investigations into the effect of ether anæsthesia upon the blood pressure shows that it tends to remain at its normal level or to be raised slightly throughout the whole period of anæsthesia, any fall in blood pressure which occurs during an operation being due to the steps of the operation and not to the anæsthetic.
>
> With chloroform anæsthesia the results are almost the exact opposite of those with ether anæsthesia. It has always been the opinion of London surgeons that ether anæsthesia is safer in long operations and those where shock is anticipated than chloroform anæsthesia. *This fact, based* upon clinical observation, is proved beyond all shadow of doubt by blood pressure records of operations. Chloroform anæsthesia is accompanied by a fall in blood pressure during *the whole anæsthesia.*

Walton,[7] following up Mummery's investigations, agrees with his main conclusions. In dealing at the same time with the treatment of shock, however, he makes a statement which, it seems to me, is quite contradictory: "In no case should any form of stimulant, either brandy, strychnine, or ether, be administered previous to or during the course of an operation." He then goes on to state that the administration of such stimulants leaves the patient in worse condition than if they had not been given. So that, while disapproving of ether as a stimulant, he recommends it as an anæsthetic on account of the fact that it is a stimulant.

Barton,[8] speaking of the open method of ether administration, says: "*Given in this way ether* has the advantage over chloroform in that it is safer and tends to the prevention of shock during operation."

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[5] THE LANCET, Nov. 12th, 1910, p. 1415.

[6] Hunterian lectures, THE LANCET, March and April, 1905.

[7] THE LANCET, July 4th (p. 17) and 11th (p. 85), 1908.

[8] Practitioner, November, 1910.

Blumfeld[9] refers to the same subject: "Thus ether tends to keep up blood pressure, and thus to diminish surgical shock. Chloroform, on the other hand, throughout an administration tends to cause a lowering of blood pressure, and thus adds an additional degree to any surgical shock that may be caused by an operation."

In nearly all the literature too much emphasis seems to be placed on the conditions obtaining during anæsthesia and too little on the subsequent state. Dudley Buxton,[10] however, in an article on the relative merits of chloroform and ether in operations for exophthalmic goitre, refers to the latter point: "Though he had employed chloroform he was ready to believe that the open ether method or venous infusions of ether were useful methods. In the latter, however, there was a danger of collapse when the unnatural stimulation of the ether passed off." The same writer[11] in a biographical article on Long, the discoverer of the anæsthetic properties of ether, makes a similar reference: "The very safety of the drug (ether) became its chiefest danger, since etherists were so obsessed by the fact that ether does not lower blood pressure or cause cardiac collapse through depression, that they failed to recognise the perils incident to over-stimulation, especially in asthenic persons."

Brown[12] writing on "Post-operative Shock," after pointing out that shock is due to exhaustion of the cells in the vaso-motor centre, claims that chloroform narcotises these cells and in this way prevents their energy being used up during shock, so that with the withdrawal of the chloroform they regain their activity. Ether, on the other hand, he thinks, does not possess this narcotic effect on the vaso-motor cells, and may even act on them as a stimulant. In summing up he says:—

> And the conclusion to which I am led is that while ether is undoubtedly the safer anæsthetic so far as the time during which the patient is under its influence is concerned, as regards the after-effects shock is more likely to be lasting and serious when ether has been used for a prolonged operation than if we had recourse to chloroform and kept the vasomotor cells partially narcotised.

The last quotation is in agreement with my own observations. Based on those observations I think that ether is the anæsthetic of choice for short operations or for those operations where little shock is anticipated, while chloroform is better for prolonged operations and for those where considerable shock is anticipated.

Glasgow.

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[9] Practitioner, February, 1909.
[10] THE LANCET, March 2nd, 1912, p. 579.
[11] THE LANCET, March 23rd, 1912, p. 818.
[12] Practitioner, August, 1910.

LONDON SCHOOL OF TROPICAL MEDICINE.—Dr. R. T. Leiper, helminthologist of the London School of Tropical Medicine, Surgeon E. L. Atkinson, R.N., who has been seconded by the Admiralty, and Mr. Cherry-Garrard (both of whom accompanied the Antarctic expedition) have started on an expedition to the Far East with the object of ascertaining the mode of spread of trematode diseases of man, especially bilharziasis. Investigations will also be made into ankylostomiasis, which has wrought great havoc among the coolies on the tea and rubber estates. The expedition has been subsidised by a grant from the Colonial Office, and the United States Rubber Company have offered facilities for the study of medical problems on their estates in Sumatra.

A CASE OF CHRONIC JOINT LESIONS IN HÆMOPHILIA.

By D. W. CARMALT JONES, M.D. Oxon.,
PHYSICIAN TO WESTMINSTER HOSPITAL.

ALL writers on hæmophilia emphasise the importance of joint lesions as being among the most frequent, painful, and disabling conditions incident to the disease. Wickham Legg[1] observed that the large joints were chiefly affected, that they became painful, swollen, and full of fluid, and that the fluid sometimes disappeared rapidly in a few days, and sometimes persisted for weeks or months, and also that the effusion frequently recurred. Sir Almroth Wright[2] states that articular effusions occur in practically all cases as soon as active exercise affects the joints, and that the fluid is chiefly clear lymph with or without the addition of red corpuscles; this fluid is not completely absorbed, adhesions occur together with osteo-arthritic changes and partial ankylosis. He also states that the frequency of the attacks decreases with age. Joseph H. Pratt[3] quotes König's classification of the stages, which are: 1. Hæmarthrosis, effusion of blood into the joint. 2. Inflammation, with an addition of serum to the blood, a condition simulating acute tuberculosis. 3. Contraction, scar-formation, ankylosis. The fluid may be completely absorbed; the bone atrophies, but outgrowths are rare. Sir Anthony Bowlby, in his book, Surgical Pathology, states that the hæmorrhages lead to swelling, the clot sets up irritation, the cartilage fibrillates and becomes lipped at the margin as in osteo-arthritis, the synovial membrane is stained and fibrotic, adhesions are formed, but the bones and ligaments are unaffected. The following case illustrates several of these points.

The patient, aged 32, was admitted to Westminster Hospital in December, 1913, suffering from acute arthritis of the right knee. He was very intelligent and gave the following history. He had been known to be a bleeder since the age of 2 years. No information was obtainable about his parents or grandparents; he had one brother and five sisters. His brother bled to death as a boy from a blow on the nose with a cricket bat. Two of his sisters are unmarried, three are married. Of the latter the first has two daughters, neither is a bleeder; the second has a son and daughter, the son is a bleeder; the third has a son and daughter, neither is a bleeder.

The patient had always bled readily from the nose and from wounds; he had been rather unfortunate in the frequency of the latter, and bore numerous scars. After a cut on the head on one occasion his whole head and face were swollen, with effusion into the eyelids. Apart from hæmophilia his health had been very good. At the age of 17 the left elbow became very painful and swollen after a slight injury, but recovered completely after two weeks in splints. He had had similar attacks in this elbow ever since, and after each there was increased limitation of movement. There had been similar attacks in the left wrist. At 18 the right elbow was affected, and he had attacks about every six weeks in this joint, on slight injury, sometimes if he only lay on the limb during sleep. At 19 the left knee was attacked after a fall from a scaffold, but recovered completely; a similar attack occurred the next year, also with recovery. At 22 the right knee was injured, and went black and blue; since then he had never been able to kneel, but for some years could walk without lameness. Four years later there was a similar attack in this joint after running; it was also the site of the attack for which he was last in hospital. The left ankle had frequently been swollen and transient swellings occurred in the hands, especially in one metacarpo-phalangeal joint. When an attack occurred the affected joint felt weak and stiff, after which burning pain came on which became very severe in five or six hours; sometimes the joint appeared bruised, and sometimes it became tightly distended "like an indiarubber ball." The swelling might subside very quickly, disappearing completely in two or three days, or it might persist indefinitely; the attack then under treatment had lasted six months.

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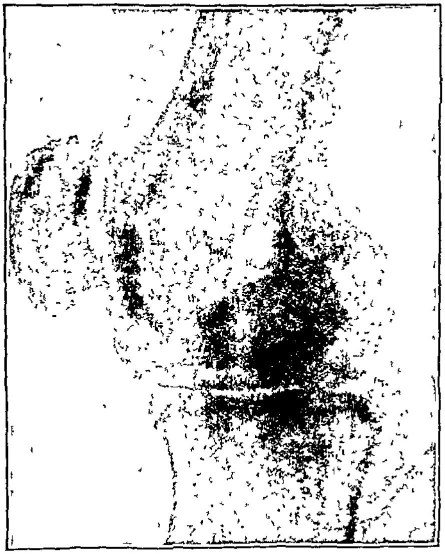
[1] Treatise on Hæmophilia.
[2] Article, Hæmophilia, Allbutt and Rolleston's System of Medicine vol. v.
[3] Article, Hæmophilia, Osler's System of Medicine, vol. iv.

The present condition of the joints is as follows. The jaw, head, spine, and thorax were unaffected. Upper extremities: right shoulder unaffected; elbow flexes to 45°, extends to 135° (rough estimation); radio-ulnar supinates and pronates through about 135°; wrists and hands unaffected. Left shoulder unaffected; elbow flexes to 50°, extends to 150°; radio-ulnar supinates and pronates through about 110°; wrist, there is slight limitation in all directions; hands unaffected. Lower extremities: right hip unaffected; knee flexes to 35°, extends to 65° (see figure); ankle unaffected. Left hip and knee unaffected; ankle dorsiflexes to 90°, extends to 135°; foot unaffected.



From a skiagram taken with plate on inner side of knee, showing considerable change in surface of patella and condyle.

Blood examinations were made. The coagulation time by Wright's method was observed on four occasions by Dr. J. A. Braxton Hicks with the following results: 14 min., 60 min. 60 min., 30 min. (normal average 5 min.).

A skiagram of the right knee, taken by Mr. E. S. Worrall, shows absorption of cartilage and definite roughening of the articular surface of the femur.

Little can be done for such a condition, but the patient found that hot air baths and gentle massage gave comfort and increased suppleness. The manipulation of such joints is probably not without risk of renewed hæmorrhage, but none occurred in the present case. Hæmophilia is not a common condition, and the joint lesions are interesting as specimens of what is practically a condition of traumatic arthritis.

Wimpole street, W.

ON THREE CASES OF ECZEMATOUS DERMATITIS PRODUCED BY POISONOUS PLANTS.

BY ARTHUR WHITFIELD, M.D. LOND, F.R.C.P. LOND.,
PHYSICIAN FOR DISEASES OF THE SKIN, KING'S COLLEGE HOSPITAL.

MY reason for publishing the following cases is that I wish to draw attention once more to the great importance that attaches to the thorough working out of local causes in the production of so-called acute eczema. In THE LANCET of July 25th, 1908, I drew attention to a series of cases in which apparently eczematous eruptions were caused by local infection with a ringworm fungus; later Sabouraud worked out the variety and published his classical article on the subject. At the time that I published my series ringworm was, of course, well known, but was not suspected as a frequent cause of eczematoid eruptions on the hands and feet.

In the same way the cases to which I am now about to refer are such as are well known and have been frequently published where the sequence of handling the plant and developing the skin eruption has been so close as to call the attention of the patient, but in these cases this sequence was not so obvious, and in two out of the three cases the cause had not been suspected by medical men in charge. The point which I therefore wish to emphasise is that it is not enough to make the diagnosis of acute eczema, but that it is the duty of the specialist to make every effort to run to earth the cause of the eruption before contenting himself with local treatment and possibly the internal treatment of some hypothetical disorder of metabolism.

CASE 1.—The patient, aged 51, was sent to me with eczema of the face. The eruption had bothered her on and off for 13 months, and was said to have been started by kissing an old aunt who had a similar eruption The disease began round the alæ nasi and on the upper lip, but the red part of the lip was not affected This distribution made me suspect that it was not due to a dentifrice, which usually causes some dryness of the lip itself. During the year that she had suffered from the disease the patient had been abroad to different parts on two occasions, and on neither occasion had she suffered from the disease. When seen there was a condition of subacute eczema affecting the eyelids and the contiguous portions of the cheeks, so that the skin was reddened, stiffened with œdema, and had a tendency to crack. On inquiry it was found that the patient had a greenhouse in which she grew primula obconica, but she said that she had handled it for years with impunity. Nevertheless, as I had known of cases in which the susceptibility had been acquired, I suggested that she should banish the plants from her greenhouse The local treatment ordered was lead lotion with a very small amount of liq. picis carbonis added to it, and under this treatment the symptoms subsided at once and did not recur.

An interesting point about this patient is that a short time ago she wrote to me to tell me that her gardener suffered from an irritating eruption on the arms after moving some foxgloves and King Edward VII. daisies. I have looked up this latter plant in James White's classical monograph, and although he does not mention the chrysanthemum maximum he alludes to a single case due to the ox-eye daisy, leucanthemum vulgare, which is the parent of the chrysanthemum maximum.

CASE 2.—The wife of a medical man was brought to me for very acute eczema of the left eyelids and cheek only. The swelling was so intense that the eye was practically closed and the eyelids had the curious fawn-coloured translucency which is so familiar in acute eczema. The history showed that the disease began with a very sudden onset in June and attacked the right hand and arm, the left forearm, and the left eye. Shortly after the first attack she went to Ireland with her husband for a holiday, and although she bicycled a great deal in all weathers the skin remained perfectly sound. Twenty-four hours after her return home she had another attack, and five or six more attacks in the last three months before I saw her. There had been until the last attack an interval of freedom lasting nearly a month. Inquiry showed that she had primula obconica in her greenhouse for nearly a year, but in the last few days (i.e., just before the last attack) she had been given several more. The primulæ were all abolished and the disease disappeared.

CASE 3.—This case is of great interest, as the plant causing it is rare in this country. The patient, aged 56, was sent to me suffering from acute eczema of the face. When I saw her the attack was beginning to pass off, but the skin of the whole face was red, stiff with œdema, and showed slight fissures at the edges of the eyelids. The history showed that she had moved into a new house in May and had her first attack of eczema in June. She herself put it down to the trouble and work of moving coming on the top of the shock of a sudden family bereavement. She had no greenhouse and only a very small garden, and the only plants that she had were an aralia, some ferns, and aspidistras. After very careful inquiries on these points I then went to other possible sources of local poisoning and at one time thought it might be due to the use of a brass polish, but I found that she had not used any for a long period before the onset of the eruption. I then inquired about hobbies and found nothing there, and lastly thought of possible irritation from a green wallpaper. I had already arranged with her to send me some of this for analysis when she suddenly remembered a creeper on her house which she had forgotten to mention before. It was said to be like a Virginia creeper but was not one. I immediately asked whether it had three leaves or five and was delighted to hear that it had three. As the plant was deciduous and had no leaves at that time I knew I should be unable to identify it and advised that a piece should be sent to Kew Gardens for identification. The report came back, as I expected, that it was Rhus toxicodendron, or the "poison ivy of the United States," and the mystery of the eczema was thus explained.

Robinson in "The English Flower Garden" writes that some unprincipled nurserymen sent it out with a new name as Ampelopsis Hoggi and that it has been distributed in many gardens. Its poison is so virulent that cases of very severe illness and even death have been reported as due to it in America. It is probable that an American physician would have identified the case at once and would not have been three-quarters of an hour, as I was, before arriving at the correct conclusion, but the plant is so uncommon in this country that it was by great luck that I tracked it down.

In conclusion, I would remark that my object in publishing these cases is not so much to draw attention to the plant as a cause of dermatitis as to emphasise once more the importance of searching for an unsuspected local irritant. Eczema from dentifrices containing salol is common, and I have recently had three cases of eczema, two of which were due to photographic developer, and one, in a dental surgeon, was due to plaster-of-Paris. The number of these irritating materials is very great, and owing to the fact that only a small proportion of people are susceptible they are often overlooked.

Harley-street, W.

THE FATE OF A PLUG OF IODOFORM GAUZE ACCIDENTALLY LEFT IN THE ABDOMEN.

BY A. E. MAYLARD, M.B., B.S. LOND., F.R.F.P.S. GLASG.,
SURGEON TO THE VICTORIA INFIRMARY, GLASGOW.

A MARRIED woman, aged 33 years, was admitted to the Victoria Infirmary, Glasgow, under my care on May 10th, 1906, suffering from the presence of gall-stones. On the 16th she was operated upon, and 22 stones were removed from the gall-bladder and one impacted stone from the common duct. She left the infirmary quite well, and remained so for four years, until 1910, when she again suffered from symptoms of cholelithiasis. These attacks continuing, she was admitted for the second time, and a stone was removed from the ampulla of Vater. At the operation a long strip of iodoform gauze was conducted down to the sutured wound in the ampulla and led out of the parietal wound. The wound healed and the patient left the infirmary well.

A fortnight later, however, she began to be troubled with a "soreness in the right side and a feeling of fulness in the stomach." The symptoms which gradually developed were all suggestive of pyloric obstruction, and after admission to the infirmary there were succussion and well-marked gastric peristalsis. The inference was that the obstruction was due to adhesions, of which there was abundance encountered both at the first and still more at the second operation. The abdomen was opened with the object of performing the usual no-loop operation of posterior gastro-jejunostomy. On pulling up the first part of the jejunum for anastomosis with the stomach a most unusual condition of the bowel was found to exist. It was greatly increased in size, and the walls were greatly thickened and congested. An indefinite feeling of something within the canal was felt. The pyloric aperture was observed to be widely dilated, as also the first part of the duodenum. On opening the jejunum a foreign substance was at once seen which, when withdrawn, proved to be a piece of gauze about 15 inches in length. One part of the elongated mass passed up into the duodenum, while the other extended down the bowel. The upper end presented a large knob-like appearance somewhat whitish in colour and practically devoid of smell; the lower end was brownish in colour and fæcal in odour. The patient made a complete recovery and left the institution well.

The piece of iodoform gauze used at the second operation led down to the sutured incision in the ampulla of Vater. During the subsequent dressings of the case the question was once raised regarding the removal of the plug. Neither dressers nor nurses had seen it; and as no indication of its presence existed at the wound it was taken for granted that it must have been unknowingly drawn out during one of the removals of the outer dressings to which it had become adherent. The subsequent fate of the plug must have been that, *by pressure, it had ulcerated into the second portion* of the duodenum; and once admitted it had been gradually carried on through the normal peristalsis of the bowel. It seems somewhat strange that, having obtained complete admission, it was not carried on much further, even to the extent of being finally ejected per anum. However, although its removal was easy, it had led to impaction and partial obstruction of the canal.

The case is interesting as showing one way in which Nature is capable of successfully overcoming accidents of the kind, and doubtless had the plug been smaller it would have passed per anum and nobody have been any the wiser.

Glasgow.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Specimens.—Three Cases of Cæsarean Section.—Uncontrollable Uterine Hæmorrhage.

A MEETING of this section was held on Feb. 5th, Dr. W. S. A. GRIFFITH, the President, being in the chair.

Dr. HERBERT R. SPENCER showed a specimen of Fibroma of the Hymen, of the size of a pigeon's egg, removed from a married woman, aged 28, a virgo intacta. The tumour was a very cellular fibroma, and was ulcerated on the surface. It grew from the right half of the hymen, which formed its pedicle. Dr. Spencer knew of no record of such a case. The patient remained well after three and three-quarter years.—Remarks were made by Dr. T. G. STEVENS and Mr. CLIFFORD WHITE.

Dr. SPENCER also showed a Degenerated Myomatous Uterus resembling the pregnant organ, weighing 7¾ lb., removed by total abdominal hysterectomy from a virgin, aged 43. It closely resembled a pregnant uterus, which it was thought to be by experienced gynæcologists present at the operation. A section showing four myomata embedded in jelly, the result of degeneration, further increased the similarity. Dr. Spencer pointed out the value of bulging of the lower segment (which he believed never occurred in ordinary pregnancy), and of the absence of ballottement. True ballottement he had never met with in any tumour except the pregnant uterus, but if the jelly in this case had become liquefied it was possible that ballottement might have been obtained.—Remarks were made by the PRESIDENT, Dr. EARDLEY L. HOLLAND, Dr. H. WILLIAMSON, Dr. AMAND ROUTH, Dr. G. BLACKER, Dr. R. D. MAXWELL, and Professor H. BRIGGS.—Dr. SPENCER replied.

Dr. T. G. STEVENS read a short communication on Three Cases of Cæsarean Section. Case 1.—Cæsarean section; labour obstructed by one-half of a uterus diadelphys. The patient, aged 20, was admitted to Queen Charlotte's Hospital on account of obstructed labour due to a pelvic tumour. This was her second pregnancy, the first having terminated normally. On examination the head was found high up and the os three-quarters dilated. There was much œdema of the cervix. A soft tumour was felt behind the cervix bulging the posterior vaginal wall forwards below the head. It was thought to be an ovarian dermoid. It could not be pushed up. Cæsarean section was performed, and difficulty was experienced in releasing the fœtal head from the pelvic cavity. After closing the uterine incision in the ordinary way the tumour behind the uterus was investigated and found to be one-half of a double uterus with its Fallopian tube and round ligament complete. It was freely movable from the pregnant half. As the patient had already gone through one normal delivery it was decided to leave the double uterus alone. A complete decidual cast of the unimpregnated half of the uterus was passed on the third day. The patient did well. Case 2.—Eclampsia; vaginal Cæsarean section. This case occurred in a primigravida, aged 27, in the twenty-fourth week of pregnancy. A great many fits had occurred during the day before admission to Queen Charlotte's Hospital and during the following night. On admission the patient was quite unconscious. The urine was very scanty and loaded with albumin. The fundus uteri reached the level of the umbilicus. There were no uterine contractions, and per vaginam the cervix was long and rigid. Owing to her very serious condition rapid delivery seemed to be indicated, and vaginal Cæsarean section was performed (vaginal hysterotomy). The operation presented no difficulties, the cervix being closed by interrupted catgut sutures. The fœtus and placenta were delivered through the incision without any great trouble. The coma gradually lessened after the operation, and the patient could be *roused on the day following to drink fluids. On the third* morning after she was conscious and made a very good recovery. When examined on the fourteenth day the vaginal incision and the cervix had healed completely. Case 3.—Uterine fibroids, one impacted in the pelvis, obstructing delivery; Cæsarean hysterectomy. The case occurred in a patient who had been married five years; no previous pregnancy. She was first seen in March, 1913, and found to have a fibroid of the size of an orange low down on the posterior surface of the uterus and others at the fundus. The cervical fibroid could not be pushed above the brim. Pregnancy had practically been prevented during the five years of her married life. As she *seemed anxious to have a child, it was suggested that a* normal sexual life should be led, and she became pregnant soon after April 1st, 1913. In June the uterus was definitely enlarged, and although the cervical fibroid remained fixed it was decided to let the patient go to term and undergo Cæsarean section. This was done at the Mildmay Memorial Hospital on Jan. 8th. 1914, the uterus being eventrated to see if myomectomy was possible. It was then found that the uterus was very distorted, and that the supposed cervical tumour was really in the lower part of the uterine body, the whole expansion of pregnancy having occurred at the expense of the anterior uterine wall, the posterior being occupied by the large fibroid. There were other fibroids also. Multiple *myomectomy, together with Cæsarean section, seemed out of* the question, as it involved many incisions and much mutilation. Supravaginal Cæsarean hysterectomy was therefore performed. The case did well, except for troublesome distension and vomiting of large amounts of fluid, accompanied with collapse, which occurred on the eighth and twelfth days, due to dilatation of the stomach.—Remarks were made by the PRESIDENT, Professor BRIGGS, Dr. SPENCER, and Dr. J. D. BARRIS.—Dr. STEVENS replied.

Mr. GORDON LEY showed a specimen of Congenital Sacrococcygeal Tumour. The specimen had been removed by Mr. J. Preston Maxwell at the Hospital at Yung Chun, China, from the left buttock of a girl aged 16. It had existed since birth, and for 13 years sinuses, discharging sebaceous material, had existed in the gluteal cleft. The specimen consisted of a cyst, lined by skin, into which projected a well-formed hand with three fingers. The skin was covered by hair. In the wall of the cyst were bones, two of which resembled ribs. Accompanying the cyst was a piece of bowel opening on a skin-covered surface. In microscopical sections this resembled the recto-cutaneous junction. Mr. Ley demonstrated that the tumour was a teratoma; he stated that such a tumour might arise (1) from a primary germinal blastomere, (2) from a totipotential cell derived from post-primary blastomere. He pointed out that the inclusion of a twin save along the great longitudinal fissure was impossible, owing to the attachment of the amnion of the parent fœtus. Inasmuch, therefore, that the tumour in the case lay behind the rectum it could not be an included twin. He suggested that the tumour probably arose from an aberrant totipotential cell or from a totipotential cell at the posterior growing point. He was of opinion that the comparative frequency of sacro-coccygeal tumours made the latter hypothesis the more probable.

Professor BRIGGS and Dr. R. A. HENDRY (Liverpool) gave a report on 104 bleeding uteri after hysterectomy. The collection of uteri from the Gynæcological Laboratory of the University of Liverpool between April, 1901, and July, 1913, was arranged in three divisions—(1) 10, aged 28 to 35; (2) 81, aged 36 to 55 (delayed climacteric); (3) 13, aged 50 to 72 (post-climacteric hæmorrhage). *Tables were produced* —(1) of the position, weights, and measurements of the uterus; (2) of the hæmorrhage, its age incidence, its mode of onset, its puerperal relation, its duration, and its relation to the thickness of the endometrium ; (3) of parity ; and (4) of complications. The familiar effects of uterine hæmorrhage vary vastly from a grave secondary anæmia to an almost inappreciable invalidism or inconvenience ; the corresponding resourceful management recognises a small percentage of uncontrollable uterine hæmorrhage—clinically important and pathologically attractive to the investigator. A typical bleeding uterus was then described and shown to illustrate uncontrollable uterine hæmorrhage in the absence of an exercisable veto against "the uncontrollable"—a veto founded on the rarity of ultimate failure. Protraction of diagnosis and treatment forcibly promoted hysterectomy. Curettage was reviewed in its efficacy and failure in both exploration and treatment. In non-malignant cases the limiting line against repeated curettage must somehow be drawn. The total 40 local complications from the same or a dissimilar cause, distributed amongst 33 cases, left 71 uncomplicated cases in which the bleeding uterus reigned uninfluenced by collateral local disease. Dr. Hendry, as Ethel Boyce Fellow in Gynæcological Pathology during the past three years, had examined the 104 uteri—3 were sacrificed to mincing in unsuccessful searches for hæmolytic lipoids; 101 were submitted to a histological inquiry in reference to (*a*) the musculature, (*b*) the fibrous tissue, (*c*) the elastic tissue, (*d*) the blood-vessels, and (*e*) the evidences of infection. Under these headings the pathological report was presented in detail—18 post-mortem uteri were examined as controls. Sparse nucleation of the muscular bundles, consistent with hypertrophy or with subinvolution, fallible as evidence of muscular degeneration, was constant in the bleeding uteri before the climacteric. Variations in the fibrous and in the elastic tissues were identical in the bleeding uteri and the controls. With the solitary exception of calcification of the media in the uterus of a 17-para, the vascular changes were also identical in the bleeding uteri and the controls. Of the bleeding uteri four showed an acute infection ; and from 12 a chronic infection, either primary or secondary, could not be excluded. No abnormal histological changes could be found in the endometrium, and no relation could be traced between varieties of endometrium and the duration or severity of the bleeding. From the present available clinical and pathological evidence embodied in the report, the thesis was deducible that uncontrollable uterine hæmorrhage was a functional disturbance. The disturbers, local and general, were numerous and varied. Amongst them, arteriosclerosis, fibrosis uteri, chronic metritis, and chronic infective endometritis had been appraised too highly and too widely within the fields of gynæcological pathology and treatment.—Remarks were made by the PRESIDENT, Dr. WILLIAMSON, Dr. J. A. WILLETT, Dr. HENDRY, and Dr. HANDFIELD JONES.—Professor BRIGGS replied.

SECTION OF ANÆSTHETICS.

Intratracheal Anæsthesia.

A MEETING of this section was held on Feb. 6th, Dr. J. BLUMFELD, the President, being in the chair.

Mr. ROBERT E. KELLY read a paper on Intratracheal Anæsthesia. He said that the intratracheal method was an artificial respiratory method first, and an anæsthetisation method secondarily, and that obstructed respiration, the only danger in ether anæsthesia in a large percentage of cases, was absolutely eliminated. After dealing with the physiology of respiration he said that life could be maintained without respiratory movements by forcing air down the trachea, as shown by Meltzer and Auer, and that this had been tried in cases of poisoning when the respiratory centre had been paralysed. In reference to thoracic surgery this method was a great improvement on the "positive and negative" pressure cabinets. In the latter the disadvantages were that the thorax and head were in different atmospheres, and also asepsis became difficult. By this method work had been done in the American experimental laboratories on the heart, lungs, and great vessels in animals. The anæsthetist was entirely out of the way ; blood, pus, and vomited matter were not inspired, and extreme accuracy of dosage could be maintained. Owing to the lessened respiratory movements manipulations in the upper part of the abdomen were facilitated. In nearly 300 cases vomiting and sore-throats from passage of the catheter were rare, and no fatalities had occurred.

Mr. H. E. G. BOYLE said that he did not consider th method suitable or advisable for all cases. The anæsthetis should make himself familiar and skilled in every know method of anæsthesia, and should be given an opportunity o seeing every case beforehand, so as to be able to decide wha method was most suitable for patient and surgeon. He said tha it was pre-eminently suitable for intrathoracic surgery, an mentioned a case of pyopneumothorax in which abou 3 ounces of pus had been blown out of the trachea. I cases of goitre the surgeon could pull on the growth wit impunity, although care must be taken not to kink th trachea. If required, the patient could easily be brough round sufficiently to cough before completion of the operation. A mixture of oxygen and ether could also b substituted for air-laden ether. It was a satisfactory metho for cleft palate, removal of upper jaw, and operations in th neck. In an operation for removal of tongue and glands through the mouth and neck, and in which a ligature of a big vein had slipped, the patient had only been saved from being drowned by his own blood by the presence of the intratracheal catheter, which kept the trachea free. Mr. Boyle considered the introduction of the catheter the most difficult part of the method.

Dr. F. E. SHIPWAY agreed with Mr. Kelly that the method was essentially one of artificial respiration. Among the advantages a free air-way was always present, and cyanosis could not arise ; the administration was even and constant; the power of excluding blood, &c., from the larynx and lungs; the field of operation in head and neck operations could be kept sterile. In abdominal operations relaxation was very good and respiratory movement slight, and shock was also diminished. He was strongly of the opinion that the vapour administered by this method should be warmed to body heat.

Dr. M. S. PEMBREY spoke of physiological observations upon intratracheal anæsthesia, made in conjunction with Dr. Shipway and Dr. G. Marshall, who had investigated the blood pressure. The rate of ventilation had averaged about 16 litres per minute and extremes varied from 8 to 30 litres per minute. A rate of 30 litres or more produced apnœa, but this was inadvisable. Respiratory movements showed that the pressure was not too great for the anæsthetised muscles. The ease with which a light anæsthesia could be maintained was the outstanding merit of the method.

Dr. GEOFFREY MARSHALL said that he had taken records of blood pressure during anæsthesia by this method. A Riva-Rocci apparatus was used on the brachial artery. Compared with other methods of anæsthesia, it was striking that there was very slight fall of blood pressure during a long operation. During the operation the blood pressure varied 5–10 mm. mercury about the mean pressure. Blood pressure was found to vary directly with the CO_2 tension.

Dr. WILLIAM HILL considered that insufflation of anæsthetics under pressure was inadvisable except in thoracotomic operations. For goitres, for instance, oro-tracheal intubation with a funnel or Junker's apparatus was all that was needed. He used this method for œsophageal work, and in other operations where there was tendency to obstruction of the trachea. To prevent blood, &c., entering the air passages he used a thin wide rubber collar attached to the oro-tracheal catheter, and which rested on the ventricular bands. Dr. Hill showed patterns of laryngoscopes and the method of introducing the catheters was demonstrated on a patient under cocaine.

Dr. G. A. H. BARTON thought that the endotracheal method had only a limited application and that for ordinary cases it offered no advantages. The sole difficulty lay in the introduction of the tube. In regard to the air pumped from the floor by foot-bellows, he doubted whether this could be considered as sterilised in its rapid passage over the ether.

Mr. T. B. LAYTON said that he had had experience of the method and for throat and nose operations had liked it very much. The great advantage was that there was no need to stop to mop up every trickle of blood that passed to the back of the mouth.

Dr. W. J. MCCARDIE said that the weak point of the method was the depth of anæsthesia necessary to introduce the catheter, and which was frequently not safe in cases of goitre and intestinal obstruction.

Mr. KELLY replied.

SECTION OF OPHTHALMOLOGY.

Sympathetic Ophthalmia.—The Use of Salvarsan in Ophthalmic Practice.

The adjourned meeting of this section was held on Feb. 16th for the purpose of concluding the discussion on the Use of Salvarsan in Ophthalmic Practice.[1] The chair was occupied by Sir Anderson Critchett, the President.

Mr. W. Lang showed a case which, in 1908, developed Sympathetic Ophthalmia following a gunshot wound, contrary to the general belief that sympathetic trouble did not follow injury. Much benefit had occurred from giving salvarsan.—Mr. J. H. Parsons, discussing the case, thought it showed that sympathtic ophthalmitis was a general infection, and it would be difficult to believe that a purely local condition could persist for three years, the interval between the injury in this case and the subsidence of the sympathetic trouble.—Mr. J. H. Fisher also spoke of two cases in which Mr. S. H. Browning forecast the onset of sympathetic trouble from the blood count.

Lieutenant-Colonel R. H. Elliot, I.M.S., continued the debate on the Use of Salvarsan. He said that he had had no experience with neosalvarsan. As he had had an experience [illegible] reported, and he believed the reason was that they did not occur; they were able men and fully on their guard. On the other hand, it was their experience that those cases which presented signs of optic neuritis, of presumably syphilitic origin, acted excellently to the remedy. As the whole of a dose of salvarsan seemed to be eliminated from the system in ten days, he thought any trouble which was likely to arise would be evident in a month or so, after which period no anxiety need be felt. In his large practice in Madras, the intramuscular method was abandoned in favour of the intravenous, largely on account of the pain caused by the former, which in many cases necessitated the use of morphia. A Wassermann test was done in each case, and the administration was not continued after that was negative. In no case did they abandon mercury and iodide, which were given in the intervals. The most startling benefits were obtained in recent or acute cases involving the uveal tract. One man was practically blind, with a congested eye, his vitreous was full of opacities, and a gummatous mass involved the ciliary body, yet within a week of using the remedy he could count fingers at a distance of from 20 to 30 feet. His general nutrition also improved. With muscle palsies and optic neuritis the results were very satisfactory, though not with tabetic conditions. He knew of two deaths following the use of salvarsan, both in marasmic patients, who probably would not have lived long in any case. With regard to sympathetic ophthalmitis, Gifford, of Omaha, from the results obtained in it from atoxyl and salvarsan, argued that it was a general protozoal disease.

Mr. E. E. Henderson narrated two cases, one a patient, aged 72, in whom "606" produced excellent results in sympathetic ophthalmia, though the condition was very severe.

Dr. Alexander Fleming said that when salvarsan was introduced into this country it was said to have ruined many eyes, but there seemed no real evidence that the drug had produced an evil effect on any eye; not any cases of optic nerve trouble had followed its use at St. Mary's Hospital. He preferred salvarsan to neosalvarsan, though the latter was very easy to use. He had never seen much benefit from salvarsan in interstitial keratitis. In one case a chancre of the inner canthus disappeared in a few days under the treatment. In choroiditis the results were very rapid and complete. In one case an Argyll-Robertson pupil, in a case diagnosed by a physician as tabes, became a normal pupil under the treatment.

Major W. S. Harrison, R.A.M.C., thought that the timidity felt about using salvarsan was largely due to the evil repute of atoxyl and soamin, but there could be no doubt about the beneficial effects of salvarsan. He had seen a case in which omission to use salvarsan on account of its supposed neurotrophic effect on cerebral nerves resulted in a calamity. He proceeded to discuss points in the technique, and expressed the opinion that as all the salvarsan given could not be collected in the urine, probably the drug was not entirely eliminated from the system as soon as was supposed. Still, by spacing out the doses at intervals of not less than a fortnight, any cumulative effect need not be feared. If a case seemed to indicate more frequent doses, he thought there would be little danger. He had not had any catastrophes in his practice with salvarsan.

Mr. J. B. Lawford read notes of a severe case of post-operative plastic iritis treated by neosalvarsan, the patient being a man aged 60, the subject of acute gout. The operation was extraction and iridectomy. There followed hazy cornea, ciliary injection, exudation, and the formation of a hypopyon. A mixed staphylococcus vaccine produced no visible effect. Nineteen days after the extraction 0·9 grm. of neosalvarsan was injected intravenously, and in two days there was definite improvement, while four days later the hypopyon was very small and the congestion was diminishing. The patient went home, but returned later, and the hypopyon had recurred. A similar dose of neosalvarsan was injected, and almost immediately the eye became brighter, and there was general marked improvement.

Mr. S. H. Browning, in answer to a number of questions, admitted that the blood count by which one could forecast the onset of sympathetic trouble was not infallible, but it was true in the great proportion of cases. The discovery of this particular blood count did not mean that the eye would be inevitably excised; efforts to save the eye would be persisted in as long as they were of any avail.

Mr. Basil T. Lang pointed out that many of these cases of injury of the ciliary region occurred in children, and it should be remembered that the total number of leucocytes in the blood varied from the moment of birth until after puberty. Until the second or third year of age 80 per cent. of the blood cells present were of the lymphocyte type—i.e., large mononuclears, large lymphocytes, and small lymphocytes. Therefore, finding a child with such a blood count must not be taken to mean that it was on the eve of sympathetic ophthalmia. He believed salvarsan to be a very good tonic from his observation on cases.

SECTION OF PATHOLOGY.

The Pathological Changes of the Thyroid in Disease.—Channels of Spread in Bacterial Infection.—Changes in Malignant Tumours on Exposure to the Gamma Rays of Radium.

A meeting of this section was held on Feb. 17th, Dr. F. W. Andrewes, the President, being in the chair.

Mr. Rupert Farrant read a paper on the Pathological Changes of the Thyroid in Disease, a summarised version of which will be printed in The Lancet later.

Dr. F. H. Thiele read a paper on the work carried out by Dr. D. Embleton and himself on the Channels of Spread in Bacterial Infection. The authors showed that the urethral mucous membrane was very permeable to bacteria and that the organisms reached the heart's blood and underwent general dissemination within two hours after painting them on the mucous membrane. The channel of spread was by way of peri-ureteral lymphatics to the capsular lymphatics of the kidney to the thoracic duct. It was shown that the covering of the glans penis was not so permeable to bacteria as the urethral mucous membrane. This rapid passage of bacteria to the heart's blood after absorption from the urethra might account for catheter fever. The vaginal mucous membrane is not permeable to bacteria. The conjunctiva was similarly found not to be permeable. It was shown that by feeding animals with bacteria infection could occur through the normal buccal mucous membrane, and that the channel of spread was by the lymphatics to the salivary glands, the lymphatic glands in connexion with them, and the cervical glands, the further spread depending upon the nature and virulence of the organism. The authors were unable to confirm the work of Calmette, Whitla, and Symmers. They found that the lungs did not act by any means as efficient filters, keeping back bacteria reaching them by way of the thoracic duct to the right heart, but that bacteria, once having reached the thoracic duct, underwent general dissemination in the body. Intestinal infection is relatively difficult. In ordinary feeding experiments alimentary infection appeared to occur chiefly through the buccal [illegible] Bacteria and particulate of the serous cavities were entirely absorbed along the lymphatics, and in the case of the peritoneum, if the thoracic duct were opened the organisms were prevented from gaining access to the blood and organs. The absorption and passage along the lymphatic channels is extremely rapid, since organisms were demonstrated in the blood, within two minutes after intraperitoneal inoculation. It was also shown that diffusible substances were absorbed both by the lymphatics and blood channels; by the former more than the latter. In serous cavity infections spread also occurred along the lymphatic channels leading to the mediastinal glands, but this was relatively slight and unimportant. It was demonstrated that in addition to easy communication between the subarachnoid space and the venous sinuses there was a very free communication with the thoracic duct. Organisms appeared in the thoracic duct within five minutes after inoculation into the subarachnoid space. From the experiments it did not appear that there was any free circulation of cerebro-spinal fluid in the brain substance, since the inoculation of pigments, dyes, and bacteria into the cerebro-spinal fluid or intraventricularly was not followed by any spread into the brain substance along any of the perivascular subarachnoid sleeves. The experiments threw no light on the presence of an intracerebral lymphatic system, since pigment and bacteria inoculated in this way remained absolutely localised, and could not be demonstrated in the cerebro-spinal fluid, lymphatic channels, or tissues. It was also observed that bacteria and pigment could travel along the perineural lymphatics of the peripheral nerves, but the spread never occurred to the cerebro-spinal fluid or cord. Diffusible substances, however, travel along the axis cylinder fairly rapidly, and could be traced along the nerve roots. The authors concluded: 1. That bacterial spread is primarily by way of the lymphatics, the bacteria rapidly passing to the thoracic duct and blood stream and rapidly undergoing general dissemination. 2. That bacteria do not have specific sites of predilection peculiar to themselves. With every infection after bacteria have gained access to the thoracic duct a general dissemination occurs, and if looked for at the proper time the bacteria can be found in every tissue, the sites in which they can ultimately be found depending on the rate at which they are destroyed in that organ. 3. The lungs do not act as efficient filters. 4. Whenever bacteria occur in the blood they are excreted in the urine, and there is no need to suppose an increased permeability of the kidney for this purpose. 5. Bacteria cannot pass from the lymphatics into the urine. The capsular lymphatics of the kidney may be full of bacteria, but they only get into the urine after they have gained access to the blood. 6. Even when general bacterial dissemination occurs the serous cavities remain free from infection for a very long time.

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[1] The Lancet, Feb. 14th, 1914, p. 459.

Mr. A. Clifford Morson read a paper on the Changes which occur in Malignant Tumours on Exposure to the Gamma Rays of Radium. He found that the effects of these rays on malignant cells were two-fold—(*a*) rapid degeneration of the malignant cells in the immediate vicinity of the tube of radium; (*b*) apparent vacuolation and enlargement of nuclei in cells beyond the degeneration zone. He pointed out that considerable difficulty arose when an attempt was made to interpret the meaning of the changes, because Wedd and S. Russ had exposed mouse carcinoma to the beta rays, outside the body, for periods varying from one hour to 24 hours and failed to find any microscopic changes, unless the irradiated tumours were reinoculated. These observations suggested that the change produced in the cancer cell was a chemical one, and it was only when in contact with certain living constituents of the body that these degenerative changes could be brought about. He was of opinion that a knowledge of the degree of sensibility of different types of malignant cells on exposure to the gamma rays was the keystone to improvement of treatment of cancer with radium. As determined by the rapidity of onset of degeneration he had found that the cells of those tumours which by ordinary methods of histological diagnosis appear to be round-cell sarcoma are very sensitive to the action of radium. In the carcinomata there were remarkable differences in sensibility. He then made a few cautious remarks upon the question of changes in metastases. In the case of secondary deposits in lymphatic glands, though the material at his disposal had been limited to four cases, he had observed macroscopic and microscopic changes of a regressive type which called for further investigations. He considered it possible that the absorption of degenerated and degenerating cancer cells at the primary site due to exposure to the gamma rays might lead to the formation of some substance which would retard the growth of the malignant cell.

SECTION OF OTOLOGY.

Exhibition of Cases.

A meeting of this section was held on Feb. 20th, under the presidency of Mr. Richard Lake.

Mr. C. E. West related a prolonged and critical case of Chronic Suppurative Otitis Media in a child, aged 5, in whom five operations eventuated in recovery. There was a long history of discharge from both ears, then cessation, followed by renewal on the right side. There were, for the week preceding admission, headache, vomiting, and increasing drowsiness. There were no local signs over the mastoid or in the neck. The pulse was irregular, rate 68; temperature 97 8° F.; respirations 20; slight lateral nystagmus on deviation of eyes to the right. At the radical mastoid operation cholesteatoma and extradural suppuration were found; also a sinus leading to the interior of the cerebellum and 2 drachms of foul pus were evacuated. Cultures and films gave pure streptococci. On doing lumbar puncture the fluid was sterile; 650 cells per cmm., 93 per cent. lymphocytes. Eight days later the pulse fell to 62, and a second operation was needed, when a drachm of pus was removed. Owing to reaccumulation bone was removed from the outer side of the sinus, and a fresh collection of pus in the cerebellum was drained by a deeply inserted tube. The patient was much worse on the following day; pulse 60, respirations less than 10 per minute. Three weeks after the first operation Mr. West widely removed the tabular part of the occipital bone and underlying dura mater, and the region of the abscess was thoroughly exposed, the brain tissue being largely necrotic. There were weakness and wasting of the right limbs. Two months later the hernia cerebri was dealt with, a large flap of scalp and periosteum being slung downwards to cover the hernia, and the bared bone was grafted. Great shock followed, but it was recovered from after the use of pituitrin and intravenous saline. The health of the patient during the last 12 months had been satisfactory and the hernia had diminished and become firmer.—The case was discussed by Mr. F. F. Muecke, Dr. F. H. Westmacott, and Mr. Sydney R. Scott.

Dr. H. J. Davis showed a case which was affected with Herpes Zoster of the auricle. The case was sent as one of acute mastoid disease, owing to the great pain which preceded the eruption.

Mr. W. M. Mollison demonstrated by means of a section that infection could spread through a small vessel in the temporal bone and become generalised, the patient succumbing to this. Post-mortem examination revealed secondary abscesses in the lungs. He also showed a case of Tumour of the Left Cerebello-pontine Angle. There were nystagmus and defect of vision, especially in the left eye, which reacted only feebly to light. Papillœdema existed on both sides, particularly the left.

Dr. W. H. Kelson exhibited a man, aged 43, in whom Ménière's symptoms had been relieved for three months by the operation of uncapping the external semicircular canal.

MEDICAL SOCIETY OF LONDON.

Exhibition of Clinical Cases and Pathological Specimens.

A meeting of this society was held on Feb. 23rd, Sir David Ferrier, the President, being in the chair.

Dr. J. Porter Parkinson showed a case of Syphilitic Cirrhosis of the Liver. The patient was a woman who was first seen in 1909 with a history of abdominal swelling of four months' duration and bilious attacks. There had been no hæmatemesis or vomiting. At that time the liver and spleen were both enormously enlarged, reaching on each side well below the anterior superior iliac spines. There was no ascites. The white corpuscles numbered 4600 per cubic millimetre, the proportions of the varieties being normal. She had been re-admitted a month ago for ascites. She was rather wasted, with a browny yellow skin, but no conjunctival jaundice and no bile in the urine. The liver and spleen had shrunk considerably, and the former was distorted and converted into irregular masses in a manner strongly suggestive of syphilis. Twelve pints of ordinary ascitic fluid was drawn off in January, but it refilled, and about one month later 16 pints were removed. The blood count on Feb. 13th showed red corpuscles, 2,030,000; white cells, 3000; polynuclears, 68 per cent.; lymphocytes, 32 per cent. Some poikilocytes were present, but no nucleated reds were seen. No megaloblasts were present. The Wassermann reaction was at first negative, but as there was some doubt as to its accuracy it was again tried and was positive. There was no direct history of syphilis.

Dr. Parkinson also showed a case of Patent Ductus Arteriosus. The patient was a girl, aged 6 years, with a history of phthisis on the father's side. She was admitted to hospital for slight bronchitis. She was a fairly well grown child, not cyanotic, but slightly dyspnœic on exertion. The cardiac impulse was in the fifth space, 1½ inches outside the nipple line, slightly heaving in character. The right limit of the deep cardiac dulness was 1 inch to the right of the sternum; the upper limit reached to the upper border of the second rib cartilage (Gerhardt's area of dulness). There was a systolic thrill in the second left intercostal space, and a loud murmur extending over nearly the whole of the cardiac cycle, best heard in the second left intercostal space, but heard over the whole cardiac area, not well conducted to the back. The pulmonary second sound was loud and often reduplicated. The other viscera appeared to be normal, and there was no other malformation. A radiogram showed the enlargement of the heart and the shadow due to the pulmonary artery.

Dr. C. E. Lakin showed the organs from a case of Hæmochromatosis with Primary Carcinoma of the Liver. The patient was under the care of Dr. W. Essex Wynter, to whom Dr. Lakin was indebted for permission to show the specimens. He was a male, aged 68. For three months before admission he complained of indigestion, and for the last month of shortness of breath, enlargement of the abdomen, pain in the right leg, loss of weight, and vomiting of blood. Post mortem, there was slight bile staining of the conjunctivæ but no jaundice of the skin. An enlarged gland (Virchow's) was found in the left supraclavicular fossa. Slight pigmentation of the skin of the legs was present. The aorta was atheromatous. There was a slight degree of mitral stenosis. The heart muscle was dark brown in colour. The lymphatic glands in all the regions examined were of an intense brown colour, and secondary deposits where they were present in the glands contrasted markedly with the brown gland substance. Microscopically while the glands showed well marked Prussian blue reaction the new growth, which was a spheroidal celled carcinoma, appeared to be entirely devoid of iron granules. The pancreas was salmon brown in colour. The liver showed the characteristic brown tint and gave a well marked Prussian blue reaction. The spleen showed perisplenitis. Microscopically these organs showed quantities of hæmosiderin but little evidence of fibrosis, which might account for the absence of sugar in the urine. The percentages of iron estimated by Dr. Kellas for the different organs were: liver, 2.47 per cent.; pancreas, 0.48 per cent.; and lymph glands, 7.32 per cent.

Dr. Edmund Cautley and Mr. N. Bishop Harman showed a specimen of Syphiloma of the Heart. According to the father the patient lost her mother from "cancer of the heart." There was no history of congenital or acquired syphilis. The girl had had excellent health, except for chorea in childhood and occasional sore throats. At the beginning of May, 1912, she developed keratitis profunda in the left eye. There was ciliary injection and a streak of fine precipitates on the back of the cornea. The iris was normal. No vitreous opacities or choroiditis could be found. The vision was 6/12, not improved by glasses. The right eye was normal with vision 6/6. The girl was carefully examined for some septic focus, but none was found, and all the organs except the eye were apparently normal. The teeth were of good shape and condition. Under atropine ointment and boric acid fomentations she recovered completely in about a month. The girl continued her duties, and never suffered from shortness of breath or signs of ill health until November, when she was found dead. The heart weighed 17 ounces. The wall of the right ventricle and the interventricular septum were extensively infiltrated with hard fibrous new tissue somewhat nodular. Dr. Stanley Wyard reported that the microscopical appearances were those of gumma. The case was unusual by reason of the patient's age, the complete absence of symptoms, and the limitation of the disease to the cardiac muscle.

Dr. W. H. Willcox showed a case of Tumour in the region of the Sella Turcica. The patient was a married woman with several children. There had been no miscarriages. Menopause occurred at the age of 39. She was in good health until March, 1913, then complaining of attacks of violent abdominal pain. Her medical attendant told her she was jaundiced. She was treated for gall stones and suffered from abdominal pain on and off, this symptom gradually becoming more severe. On July 23rd the patient became much worse and vomited continually. There was some diarrhœa. She complained first on that day of being unable to see properly and was drowsy and disinclined to talk. On July 24th there was no vomiting, but the patient was no better. On July 25th she complained of severe frontal pain and on July 26th became delirious. She still recognised her parents, but her sight was very much impaired. She was admitted to St. Mary's Hospital on the evening of July 26th, 1913. On admission she was completely comatose, with stertorous breathing and some cyanosis. The temperature was 102.5° F., pulse 100, and respirations 24. There was incontinence of urine. Ptosis of the right eyelid and some facial weakness on the right side were present. The pupils were unequal, the left being larger than the right. Both pupils reacted to light. The knee jerks were absent. There was an extensor plantar reflex present on each side. The tongue was furred and the breath foul. The heart and lungs were normal. The abdomen was distended. The liver and spleen were normal. Retention of urine occurred later and the urine had to be regularly drawn off by a catheter. The urine was acid, its specific gravity 1026. Urea 3.9 per cent. A faint trace of albumin was present. No acetone or diacetic acid was present. The patient remained comatose until July 30th. On this day she was able to speak and complained of being unable to see. The eyes were examined but no optic neuritis was observed, the discs being pale and the vessels small. Ptosis of the right eyelid was very marked. On July 31st she was more conscious and the ptosis of the right eye was less marked. There was definite weakness of the right arm and also of the right side of the face. There was complete ophthalmoplegia of the right eye and she could not see at all with either eye. Some impairment of outward and upward movements of the left eye was present. The temperature became normal on August 3rd. The patient remained in an abnormal mental state and on August 14th she had delusions that her husband and children were present and that someone was trying to poison her. On August 18th her mental condition became normal. The ptosis gradually cleared up and the right eye gradually recovered its movements. On August 11th she was able to see slightly, but could not recognise objects. The weakness of the right arm and face cleared up. She left hospital on Sept. 23rd. She was able to recognise hand movements, but vision was very indistinct. The ocular movements were normal except that there was some deficiency of outward movement of the right eye. The ptosis of the right eye had gone and the mental condition was normal. A Wassermann test gave a positive result on July 30th. She was treated with inunction of mercurial ointment and subcutaneous injections of soziodol of mercury. Iodide of potassium was given by the mouth. She developed some stomatitis on August 10th, and the mercury was stopped for a few days. She attended the out-patient department of St. Mary's Hospital on Jan. 1st, 1914, and then had Argyll Robertson pupils and well marked bitemporal hemianopia. Her ocular movements were normal. Her general condition of health was good. An X ray photograph by Dr. G. Harrison Orton showed marked enlargement of the sella turcica. Mercury and iodide had been continued during the past four months. She had on Jan. 28th a fresh attack of abdominal pain lasting two days.

Dr. W. Essex Wynter showed a case of Femoral Drainage for Ascites in Advanced Cirrhosis. The patient, a woman, was admitted in September, 1912, with ascites. The abdomen was very tense and there was much respiratory distress. Paracentesis was performed on Sept. 16th, 9 pints of serum being removed. By Oct. 17th the abdomen was again tense and an attempt was made, by placing a decalcified bone tube in the peritoneal cavity, to drain into the subcutaneous tissue of the lower thoracic region. Suppuration occurred in the integument and the bone tube was discharged, but the fluid remained in abeyance till Dec. 17th. There was then a rapid accumulation and on Jan. 5th, 1913, 11 pints were removed by tapping. She was discharged on Jan. 8th. She was readmitted on Jan. 22nd, and being very tense was tapped at once, but not satisfactorily. On Jan. 24th the femoral ring was opened with the aid of a cannula and probe passed through the abdominal wall above, a decalcified bone tube was inserted, and the wound closely sutured, about five pints of fluid escaping. During convalescence there was some œdema about the wound and a few drops of sanious fluid escaped, but the abdomen became smaller, and the patient recovered her strength. By Feb. 2nd she was convalescent except for a continued temperature of 100° F., due to some tuberculous trouble at the right apex, and dry pleurisy over the left front. *She was discharged on March 22nd and there had been no* occasion to tap the abdomen since. The higher operation was undertaken as a compromise, as at first the patient appeared too ill to stand the more complete femoral incision or repeated tapping. Incidentally, it afforded an opportunity for ocular demonstration of the cirrhotic liver. Sufficient improvement in the general condition followed to permit of the more radical operation, and the ultimate result had been quite satisfactory in spite of the advanced stage of cirrhosis evident in the observed state of the liver and the obvious aspect. Ascites was present, but the need for repeated tapping was obviated.

Dr. R. A. YOUNG showed a case of Acquired Double Mitral Disease in a Transposed Heart. The patient was a girl aged 10 years and 10 months. She had suffered from rheumatic fever three years ago followed by chorea, and came under observation for a cough of ten weeks' duration and headache. The cardiac impulse was in the right axilla, and cardiac dulness to the right of sternum. A sharp first sound and systolic murmur were audible at the situation of the impulse. X rays confirmed the diagnosis, and aided by a bismuth bolus showed that the stomach was on the right side.

Dr. E. A. COCKAYNE showed a specimen of Rheumatic Nodules on the Heart.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Exhibition of Clinical Cases.

A MEETING of this society was held in the board room of the Great Northern Central Hospital on Feb. 12th, Dr. T. WILSON PARRY, the President, being in the chair.

Dr. ALEXANDER MORISON showed a girl, 11 years of age, who had had Epilepsy since she was 2 years old. The attacks were at times of very frequent occurrence, as many as 38 occurring in 24 hours. While under his care they were characterised by clonic convulsions affecting the right half of the body. At a former period (1909) they were stated to have affected the left side. Finding the bromides ineffectual in arresting the attacks, Dr. Morison used hypodermic injections of sulphate of atropine (1/200 gr.) three times a day with immediate diminution of the frequency of the attacks and in a few days in their disappearance, when the atropine was administered by the mouth ultimately in doses of 1/100 gr. twice a day. With the abandonment of the drug there was a tendency to recurrence of the attacks and at its resumption they disappeared for lengthened periods, only supervening occasionally as a single attack. While recognising this clinical fact that there are spontaneous periods of cessation of attacks in epilepsy, Dr. Morison felt inclined to regard atropine as having had a beneficial effect in this case and as affording some support to the vaso-motor theory of the origin of the attacks, at any rate in some cases of epilepsy.

Dr. E. BELLINGHAM SMITH showed two cases of Aphasia. The first was a case of Jacksonian Epilepsy—Right Hemianopia and Word Blindness. The patient was a man who had contracted syphilis 28 years ago, and was now being treated for convulsive movements affecting the right side of the face and right arm, and also for difficulty in reading. The illness commenced in February, 1912, with an attack in which the patient suffered from sudden loss of sight in the right eye and loss of speech and numbness in the right arm. Since that date the patient had had attacks, recurring every two or three weeks, of convulsive movements of the right side of the face and right arm; these attacks were preceded by a "burning sensation" in the right eye, and were not associated with any loss of consciousness. He complained that his sight was very imperfect in his right eye, and that to obtain a clear view of objects he must turn his head to the right. In addition he had difficulty in reading. He said that he could see the print, but had difficulty in understanding what he read. On examination it was found that he recognised and named objects correctly, that he read very slowly and aloud, spelling each letter deliberately; he could then enunciate short words but stumbled over or completely fell at long ones. The difficulty with some letters was greater than with others. He wrote from dictation and copied quite well though slowly. When writing from dictation he repeated the words *to himself. If, however, he was shown what he had written* he again had difficulty in reading it. Except for a considerable degree of contraction of his right field of vision he was free from any other evidence of nervous disease. These symptoms suggested that this man was suffering from a gummatous meningitis, giving rise to epileptiform convulsions of the Jacksonian type, while the hemianopia and word-blindness without agraphia could be explained on the assumption that he had some syphilitic obliteration of the vessels supplying the general visual centre in the occipital lobe and the region of the association fibres connecting the general visual centre with the word-memory centre and the angular gyrus.—Dr. HARRY CAMPBELL was inclined to accept Dr. Bellingham Smith's explanation of the case—namely, that the visual and aphasic phenomena were due to softening from endarteritis, and that the minor Jacksonian attacks were caused by a localised meningitis or actual gumma. He held that all cases of cerebral syphilis should be treated without delay by the intravenous administration of salvarsan, in conjunction with mercury. If this failed recourse should be had to the intrathecal injection of salvarsanised serum. He incidentally referred to the good results he had obtained from this method of treatment in tabes. He urged that in prescribing potassium iodide for syphilis of the central nervous system not less than drachm doses, three or four times a day, should be ordered.

Dr. BELLINGHAM SMITH'S second case was one of Motor Aphasia and Partial Hemiplegia. The patient was a female aged 24. Nine weeks ago she was confined. The confinement was attended by a considerable loss of blood, which left the patient, in her own words, "very weak and breathless." Three weeks after the birth, while the patient was sitting at dinner, she felt a sudden numb feeling in the right arm and found that both her right arm and the right side of her face were paralysed. On attempting to speak she was unable to utter a sound. Complete aphasia lasted for three days; since then her speech had been slowly and steadily recovering *pari passu* with her paralysis of arm and face. On examination it will be noticed that there is a slight weakness of the right side of the face, which is more marked on smiling. The movements of the right arm appear normal, but the finer movements of the fingers, as required for threading a needle or writing, are still very deficient. As regards her speech, she hears well and understands what is said to her; she can also read readily and understands what she reads. She, however, says that when she wants to speak or reply "she knows what she wants to say but can't get it out without hesitating, stammering, clipping her words, or even occasionally using an entirely wrong expression." She can write so far as her paralysis admits, but is incapable of counting money. In this instance the inability to count, the difficulty in expressing herself, and the use of wrong words, associated with her previous history of loss of blood and resulting anæmia, suggest that this patient is suffering from some cerebral thrombosis which has temporarily disorganised her motor areas subserving the movements of face and hand and also the kinæsthetic memory *centre*, which controls intelligible speech.

Dr. H. L. TIDY showed a case of Tuberculide of the Hands combined with Bazin's Disease. The patient was a girl aged 20. Eighteen m[illegible] hands, which have per[illegible] ache on exertion, but [illegible] a nodule will rupture and discharge slightly. About three months ago she noticed a few lumps under the skin above the right ankle, several of which have formed ulcers. On both hands are numerous cutaneous nodules, about the size of a sixpence, of bluish tint and very slightly indurated. The circulation is good. On the right calf are several ulcers of the same size with blue peripheries, and subcutaneous nodules can be felt. On the left calf are a few subcutaneous nodules. In both posterior triangles of the neck are numerous small discrete glands. Otherwise there is nothing abnormal to be found.

Mr. GORDON TAYLOR showed a case of Osteitis Deformans in a man aged 56. The patient had sustained a fracture of the right femur in the middle of its shaft, and the application of splints and extension not proving successful in keeping the ends in apposition the bone was plated by Mr. T. H. Kellock. This took place in May, 1913. Two months later it was noticed that he was suffering from osteitis deformans, both femora and tibiæ being bowed; the upper part of the spine also was seen to be fixed in a bowed position. The clavicles were enlarged and the bones of the upper extremity were also slightly curved. None of the bones of the head were affected.—The PRESIDENT mentioned that he had had an extremely interesting case of the same nature under his care some years ago. A lady of 63, whom he had known some years before the onset of the disease, was the subject. The disease, from start to finish, lasted four and a half years. It started after an operation for appendicitis, this being her second attack. The first attack occurred six months previously, and the nurse who attended her on both occasions noticed nothing abnormal with her bones. After the operation she complained of rheumatic pains in her legs and thighs, and it was noticed from time to time that she was getting shorter in stature. About four years later the President was called urgently to see her and she had actually fractured her left femur while in the act of stooping to put out a gas-ring. The bone was carefully set and the fragments kept in apposition for six weeks all but two days. She died at this time, and on examining the condition of the seat of fracture after death it was found that no perfect union had taken place. Of the bones of the head none but the point of the chin was enlarged. The President added that Osler mentioned in his text-book that "of 8 cases traced to the end, 5 died with cancer or sarcoma."—Mr. CECIL ROWNTREE said that he had not heard that cases of osteitis deformans were liable to cancer, but he could recall one in which cancer of the tongue occurred. What he had particularly noticed in this case was the very high arterial tension and arterio-sclerosis that existed.—Mr. TAYLOR said that arterio-sclerosis was not present in his case.

Dr. C. M. HINDS HOWELL showed a case of Paraplegia in a woman aged 60. The patient was well till nine months ago, when she complained of pains in the legs and back and weakness of the left leg. Since the onset of symptoms the pains had ceased, but there had been progressive loss of power in the legs combined with loss of sensation. The patient now was unable to stand alone and presented all the signs of spastic paraplegia. She also showed the Brown-Séquard type of paralysis, muscular power being most affected in the left leg, whilst the sensory loss was most noticeable in the right leg. The upper limit of sensory loss pointed to a focal lesion chiefly on the left side of the cord at the fourth thoracic segment. Its nature was almost certainly a tumour. Considering the patient's age Dr. Hinds Howell did not think that he could advise operation unless the patient was very anxious to have it done.

Mr. C. SHATTOCK showed a woman, aged 62 (under the care of Mr. C. C. Choyce), with a Tumour in the Left Groin, noticed for three months, having caused discomfort in walking but no actual pain. There was an elastic mass in the upper part of Scarpa's triangle, free from tenderness, not fixed to skin or bone, and lying behind and to the outer side of the femoral vessels, which were pushed forwards and not involved in the mass. Examination of the hip-joint, spine, bones, and pelvis was negative. The mass was considered to be probably a lipoma.—Mr. TAYLOR thought the diagnosis lay between a lipoma and a fibrous tumour.—Mr. ROWNTREE was in favour of its being a cyst.

Mr. SHATTOCK also showed a man (under the care of Mr. Arthur Edmunds) exhibiting an Aneurysm of the Upper Part of the Radial Artery. There was no history of trauma, but the patient had a positive Wassermann reaction. The swelling had been noticed for three weeks, and was steadily enlarging.—Dr. CAMPBELL remarked that arterial aneurysm did not occur so long as the media remained intact. He drew attention to a function of the muscular elements in the arteries and veins which had been entirely overlooked in this country—i.e., to prevent by their tonic contraction the vessels from undergoing a progressive yielding before the intravascular pressure. Tonically contracted muscle fibre offered a resistance *sui generis* to a stretching force. Were the vessels divested of their muscular (and elastic) elements they would speedily become aneurysmal. From this point of view the veins stood as much in need of muscular tissue as the arteries;[1] those of the lower extremities were rich in muscle on account of the hydrostatic pressure which they had to sustain; the jugular veins contained but little muscle; while the intraocular, intracranial, and interosseous veins were wholly devoid of it, because in their case the intravenous pressure never exceeded the pressure outside. The influence of a tonically contracted media in preventing a yielding of the vessel wall was well shown in the case of the temporal artery. Chronic hypotonus of this vessel led to a yielding of it in the transverse and longitudinal directions; this was the explanation of the dilated and tortuous temporals which were quite frequently present in subjects of low blood pressure.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Fibromyoma.—Laceration of the Perineum and its Operative Treatment.

A MEETING of this section was held on Feb. 6th, Sir WILLIAM J. SMYLY being in the chair.

Sir WILLIAM SMYLY showed a specimen of Fibromyoma removed from a girl aged 21 on whom he had been asked to do an ovariotomy. He did not see the patient until the time of the operation on Jan. 27th, but he did not think he could have made a correct diagnosis even had she come under his observation sooner. When the abdomen was being prepared he felt something like a soft flaccid cyst. On opening the abdomen the uterus and ovaries were found to be healthy. On the right side was the tumour, which was shelled out of the broad ligament. Although it was cyst-like in appearance, on a knife being inserted nothing came out. The tumour was entirely intraligamentous except a very small part embedded in the right wall of the uterus. He had never seen such a large myoma in a girl at such an early age. Pathological examination showed the specimen to be a myoma.

Dr. G. FITZGIBBON described a specimen of myoma which he had recently removed from a patient aged 29. The tumour felt cystic, and on its removal proved to be so. He had considerable doubt at first as to whether it might not be a pregnancy, but after three weeks' observation it was decided to operate. At the operation he felt that there was considerable risk in not removing the whole uterus. One of the difficulties in these cases was the diagnosis, but a greater difficulty was to decide whether the tumour was sarcomatous or a fibroma. He suggested that a second operation would meet the case if the tumour turned out to be a sarcoma, and therefore one should do a myomectomy first.

Dr. E. HASTINGS TWEEDY, in a paper on Laceration of the Perineum and its Operative Treatment, said that in the majority of tears the levator fibres were not severed, but were torn from their attachments to the mid-line of the perineum. This dragging away preceded rupture of the skin and other superficial structures, so that vigorous efforts to support the perineum were often conducted at a time long after its important elements had been torn away. The method of mass suturing with the patient lying on her side could be made an ideal operation. The lowest morbidity percentage rate was seen in the practice of those who conducted obstetrics with least surgical interference, and this truth applied to hospital as well as to private practice. The search for vaginal rents as a routine of treatment increased morbidity. The obstetrician should learn to rely upon himself rather than on his assistants. A slight modification of Lawson Tait's perineorrhaphy was all that was required to bring about perfect adaptation of the levator and other muscles in secondary repair of the perineum.—Dr. FITZGIBBON agreed with the view that it was of importance to lift the tongue of mucous membrane towards the vagina and away from the anus. It was his practice to suture the perineum while the patient was in the lateral position and before the placenta came away, as at that time the anæsthesia was generally sufficiently deep to permit of doing so. An approximation could be made just as well in the lateral position as any other, provided that it did not extend very far into the vagina. In right side tears the dorsal position was necessary for full exposure of the tear. For the majority of tears the lateral position afforded quite a satisfactory view and enabled them to be repaired efficiently. He preferred silkworm gut because it was an advantage to have sutures which would not absorb lochia and carry them into the wound.—Dr. H. JELLETT did not consider that the extent or importance of tears extending up the posterior vaginal wall could be appreciated unless the patient was in such a position that this wall could be clearly seen. Repairing by sutures passed from the perineum alone with the patient in the lateral position had a tendency to leave a tear of the posterior vaginal wall unstitched, so leaving a pouch communicating with the vagina. Even if the perineum suture entered the levator ani muscle, it might very easily miss such part of the vaginal tear as lay above the muscle. The dorsal position was the most suitable for almost every part of obstetrical work, including normal labour: the tendency was towards this practice on the continent and in America. He showed drawings of an operation to illustrate the repair of chronic lacerations of the perineum, and called particular attention to the necessity for suturing the levator ani muscle separately. He had been performing this operation for the last six or seven years, and had quite abandoned the old Lawson Tait operation.—Dr. B. A. H. SOLOMONS thought it necessary that the best way for sewing the ruptured perineum after birth should be determined conclusively so that patients might be left as well before their confinements as afterwards. With regard to the question as to position he always adopted the lateral, except where the vagina was torn very high up and required catgut sutures. He looked with disfavour on catgut in ordinary tears of the perineum and always used silkworm gut.—Dr. D. G. MADILL, referring to the classification of tears, suggested grouping them as—slight tears, large tears, and complete tears. The first healed uniformly, but he found the large tears did not heal up in many cases. He considered that there were objections to suturing lacerations in the second stage which more than counterbalanced the advantages. It was better to wait till the placenta was away before suturing.—Dr. V. J. MCALLISTER considered that in those procedures where the muscles of the pelvic floor were exposed in the process of repair the muscle fibres first met with were not portions of the levator ani, but the remains of the transversus perinei profundus muscles. To display the levator ani muscle satisfactorily one must either retract, or in some cases temporarily divide and reflect the transversus perinei profundus. The levator ani fibres on each side thus exposed he brought together in the middle line in front of the rectum, after which he dealt with the transversus perinei profundus muscles in the same way, uniting them in the middle line superficial to the repaired levator ani muscle.—Sir WILLIAM SMYLY said he regarded the division into three degrees of laceration as of practical importance; the great majority of tears were slight, but there were bad cases in which the muscles were torn, and, as Dr. Tweedy had pointed out, tears through the sphincter muscle formed a distinct group. He preferred operating with the patient in the dorsal position, because, among other reasons, both hands were free, whereas in the lateral the left had to act as a speculum.—Dr. TWEEDY, in reply, said he recognised that the muscles held sutures very badly, and could very easily be cut through, and for this reason he described the operation which took in everything right up to the ischio-rectal fossa; the most elaborate dissection would not enable more tissue to be taken in. In the fresh tear and the old tear the anatomical conditions were precisely similar. He advocated the use of a needle sufficiently long and curved to take in enough fibrous sheath, as it would hold better than muscle. He held that inquisitive midwifery could not be practised without increasing the morbidity rate. He always pinned his faith to the mass suture. The old Lawson Tait operation fell into disuse because it did not bring in the muscles, but the modified form of operation with the curved needle worked admirably.

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[1] THE LANCET, Feb. 26th, 1910, p. 590.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held in the Medical Institute, Belfast, on Feb. 12th, Mr. A. B. Mitchell, the President, being in the chair.—Dr. W. Calwell read a paper on Some Less-known Points in Pleural Effusion, which was illustrated by lantern slides. He dealt with the forces within the thorax, first as regarded one lung, and then as regarded the interaction of the lungs upon the mediastinum. A clinical proof was given that fluid did not descend into the complementary pleural sinus in the early stages of effusion, as the pressure was positive as that of the abdomen, not negative as in the lung. A full description of the fissures of the lungs was given, and the importance of the accurate knowledge of their anatomy in cases of interlobar empyemata was insisted on. The possibility of an interlobar serous effusion remaining loculated, as a cause of some of the obscure lung cases, with aberrant signs and ending in recovery, was suggested and its study urged.—Mr. Andrew Fullerton read a paper on the Surgery of the Gall-bladder and Bile Ducts, illustrated by 30 cases without a death. He divided his cases into the following groups. Those in which the gall-bladder was simply drained (15 cases) for calculus, cholecystitis, or chronic pancreatitis. In 11 cases the gall-bladder was removed as a primary operation and in 2 cases as a secondary operation eight and two years respectively after the primary one of simple drainage. Recurrence of symptoms was the cause necessitating the secondary operation. In 4 cases the common duct was incised for the removal of calculi from it or the hepatic duct In 3 of these the duct was drained and in 1 immediate suture of the incision was carried out. In 1 case transduodenal choledochotomy was done for a small stone impacted in the ampulla of Vater. In 1 case the dilated common duct, which could not be emptied through the cystic duct, was anastomosed to the duodenum. This was a case of chronic pancreatitis in which apparently complete obstruction of the common duct was present. The anastomosis was carried out with the help of a small Murphy's button. The patient lived for a year after the operation. The cause of his death was not known to Mr. Fullerton. In 1 case a large subphrenic abscess appeared shortly after cholecystectomy. This was successfully treated by removal of a portion of rib and suture of the diaphragm to the parietal pleura before incision of the abscess. In 2 cases subhepatic abscesses occurred after perforation of the gall-bladder by calculi. In one of these simple drainage was carried out, and in the other the gall-bladder with the calculi was removed. Chronic pancreatitis was present in a marked degree in 5 cases in the series. It was remarkable after operation how rapidly the patients put on flesh. This would seem to signify that the pancreas possessed considerable reparative powers. Mr. Fullerton said that though he had not to record any deaths in this series, he had been favoured with more than the usual amount of luck in several. He could not, of course, count on a continuance of such a mortality rate.—Dr. J. C. Rankin read a paper on the Problem of Tuberculosis as Illustrated by Lupus. An analysis of 100 consecutive cases of lupus coming under Dr. Rankin's treatment showed an incidence as follows: 38 on the nose, 35 on the body, 62 on the cheek, while 35 patients had more than one lesion. Of those starting in the nose practically all had intranasal disease. Eye symptoms were common, usually dacryocystitis. These conditions ante-dated the appearance of the external lupus, often by years, so that taking as evidence of the same diseased process, lacrymation from stoppage of duct, the history of recurring treatment for the eyes, and the difficulty of breathing through the nose, in almost every incidence they were, Dr. Rankin said, brought to a period before puberty. Those cases starting on the body were remarkable for their similarity. Of 12 cases occurring on the hip they all formed circles or segments of circles about a common central point; 17 cases occurring on the wrist showed a point of origin at the back of the joint. The other cases were situated about the other joints. The cases on the cheek started obviously from a submaxillary lymphatic gland and spread in a circle with the main line of advance to the inner canthus of the eye.—In an interesting discussion which took place after the reading of the above communications the following took part:—Dr. J. Campbell, Dr. T. Houston, Dr. R. Campbell, Dr. G. A. Hicks, Dr. O. G. Lowry, Dr. H. Stevenson, Dr. S. T. Irwin, Dr. Calwell, and the President.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 20th, Dr. David Ross, the President, being in the chair.—Dr. A. Feiling showed three men the subjects of Tabes Dorsalis without the loss of the knee-jerks. The first had had an ulcer on the sole for six months which was now healing. He had had shooting pains for 12 months and some difficulty in micturition; the pupils were unequal and the Argyll-Robertson sign present; slight ataxia and Rombergism were present. There was no known syphilis. In the second case there was inability to retain and void urine normally. The pupils were dilated and sluggish in response to light; there was some analgesia of the arms; the ankle-jerks were absent. There was no known syphilis; Wassermann blood reaction was negative, the spinal fluid positive. Two intravenous injections of neosalvarsan were given without noticeable benefit. In the third case there were pupillary signs without ataxia but with diminished sense of muscle pain in the legs.—Mr. R. C. Elmslie showed: 1. A boy, aged 10 years, whose humerus broke three and a half years ago, through a fall, but at the site of a cyst in the shaft. The fracture healed. The cyst was scraped, but the cavity was not bone filled and seemed to be extending downward. Further measures were proposed to exclude the cyst cavity. 2. A boy, aged 11, with Scoliosis treated by forcible over-correction of the spinal curve by Abbott's method.—Mr. H. J. Curtis showed a woman, aged 54, with a Sarcoma over the Occiput which had perforated the skull. She had also a sarcoma on a rib and advanced mediastinal growth. The skull growth seemed to have been periosteal.—Mr. W. C. G. Ashdowne showed a boy, aged 9 years, who, falling from a van, broke a rib four months ago. Now he stands with body bent forward, thighs semiflexed, and head drooped grizzling. He was placed on a couch and by engaging his attention the flexed thighs were easily placed flat and the spine straight without pain.—Discussion followed as to the diagnosis, opinions varying between fibrosis, sacro-iliac disease, and a functional state.—Dr. P. Hamill showed a woman, aged 62, the subject of Progressive Muscular Atrophy of the Upper Limbs for three and a half years. Fibrillary tremors of the triceps and deltoid were very plain, as was wasting of the thenar and hypothenar eminences.—Mr. P. Maynard Heath showed: (1) A woman with a Primary Chancre of the lower lip; (2) a baby, aged three weeks, with a Hæmatoma over the right parietal and another one over the occipital bone; (3) a woman, aged 29, whose Rib had been Resected and Beck's bismuth paste injected for empyema successfully; and (4) a boy with Birth Palsy of the right arm whose supraspinatus had been beneficially divided.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on Feb. 13th, Dr. A. K. Chalmers, the President, being in the chair.—Dr. William Hanna read a paper on the Use of Refrigeration in the Preservation of Foods. After referring to the fact that the United States was not only no longer sending cattle to this country, but was taking for its own supply cattle from countries which had hitherto previously exported almost exclusively to Great Britain, he said that the methods of refrigeration of foodstuffs depended chiefly on the scientific fact that expanding air or vaporising substances, such as sulphurous acid, carbonic acid, or ammonia, in assuming the gaseous form abstracted heat from the atmosphere or other bodies in the neighbourhood. Fresh meat was brought from distant countries either as hard frozen meat or as chilled meat. Chilled meat arrived in a condition ready for consumption and retained the characteristics of fresh meat more closely than frozen meat, but the chilling process required great care and the transport needed constant supervision. The frozen method was the better one as regarded preservation, although it sometimes damaged the cellular and fibrous structure of the meat unless special care was taken in defrosting. Although it had been sometimes said that frozen meat when thawed out more readily decomposed, yet experience showed that it would keep with proper care as well as freshly killed meat after being taken from the refrigerator even in high temperature. Referring to the conditions of unsoundness which were found as the result of inspections made under the foreign meat and unsound food regulations, Dr. Hanna stated that, owing to the very good inspection carried out at the present time in nearly all the exporting countries, the proportion of diseased meat arriving in this country was very small. Tuberculosis was found in animals from nearly all exporting countries, but as a rule the lesions were such that in many cases they might be overlooked with the best inspection. Out of 59,000 carcasses of pigs imported during three years into Liverpool from China only 541 were found to be affected with tuberculosis after a very complete examination of every carcass. Through some fault in the process of refrigeration moulds were frequently found on refrigerated meat, poultry, game, or fruit. If the mould were present in only small amount it would suffice to remove the superficial part of the meat or substance affected, but if it had reached a large amount it would be necessary to take into consideration the possibility of decomposition in the underlying flesh associated with bacteria. Dr. Hanna considered that refrigeration afforded a ready means of obtaining a plentiful and cheap supply of food, and he thought that every means was now being taken to obtain and keep this supply wholesome by the constant attention of the producer abroad to the methods of inspection and handling and by its thorough examination on landing in this country.—Dr. A. W. J. MacFadden referred to the possible desirability of limiting the time during which cold storage should take place. In the United States regulations with respect to this had been made, but in this country it was probable that storage was not prolonged beyond the period when it would be undesirable to continue it.—Sir Shirley Murphy spoke of the effect of cold storage on the flavour of meat, and thought that the process might even improve the flavour.—Dr. R. Dudfield considered that the time had come when the use of preservatives in milk and cream should be stopped and refrigerating processes should take their place.

UNITED SERVICES MEDICAL SOCIETY.—At a meeting of this society held at the Royal Army Medical College, Grosvenor-road, S.W., on Feb. 12th, Colonel S. Westcott, C.M.G., A.M.S., read a paper on the Siege of Ladysmith. After giving a general sketch of the military arrangements for the defence of the town, Colonel Westcott said he was first placed in medical charge of the convent, which had been equipped for the treatment of the wounded, and described some of the most interesting cases that came under his care while at the convent. Later, as a consequence of the removal of the sick and wounded together with the sick women and children to the neutral camp at Intombi, the medical arrangements were modified, and he was appointed secretary to the principal medical officer of this camp. Colonel Westcott described the arrangements made for treating the sick and wounded at Intombi, and the difficulty of the task owing chiefly to want of sufficient *personnel*. On Nov. 11th the first two cases of enteric fever arrived, heralding an outbreak that eventually totalled up to 2250; when one added to this 2000 cases of dysentery, not to mention the wounded and other cases of illness, the difficulty of caring for these with a medical establishment of 22 officers, 32 nursing sisters, 38 non-commissioned officers, and 305 orderlies, of which only 69 were trained men, could be appreciated. In addition there was a large staff of Indian and Kaffir labourers whose duties were scavenging, refuse removal, laundry work, and grave-digging, &c., and these needed constant supervision. At the commencement of the siege a long investment was not anticipated, and the food-supply was thought to be sufficient; with the delay in the arrival of the expected relief and the reverses to Buller's force, the rations were gradually cut down, until on Jan. 28th the ordinary ration was 1 lb. of bread made from wheat or maize, 1 lb. of horse or mule meat, ¼ oz. tea, 1⅓ oz. sugar; vinegar was used as an antiscorbutic instead of lime juice, and there was no milk except for the sick. Colonel Westcott described the various rations that were used for the sick. Of drugs there was plenty. He discussed the mode of development of the outbreak of enteric fever and the causes that led to its continuation. The speaker noted that penetrating abdominal wounds were not nearly as fatal as one would have expected, and read notes of cases of these injuries. Colonel Westcott concluded his most interesting paper with a word of tribute to the high qualities of the late General Sir George White and Colonel, now Sir Edward Ward, Bart.

CARDIFF MEDICAL SOCIETY.—A meeting of this society was held on Feb. 10th. The following cases and specimens were shown:—Dr. E. J. Maclean: An Ectopic Gestation from the right side. A corresponding condition had occurred in the same patient on the left side a few years before.—Mr. William Sheen: A patient who had had Hemithyroidectomy performed eight days before. The transverse scar was in the fold of the neck, and was already quite inconspicuous.—Mr. J. W. Geary Grant: A child with Syndactyly on both hands. There was separation of the proximal portions of the digits, but clubbing and adhesion of the terminal parts. No other members of the family had any developmental errors.—Mr. Sheen made a communication on Bullet Wounds, referring particularly to those occurring in civil practice. He described the various weapons and projectiles used, from the toy pistol to the latest military weapons, and including a description of sporting guns and cartridges. He also showed a number of cartridges from the Bulgarian war. After indicating the various factors which determined the amount of damage, Mr. Sheen went on to describe and illustrate the best methods of localising and removing bullets lodged in the tissues. He showed the telephone probe, including a modification which he had devised, where the same pair of forceps detected and extracted the bullet. Finally, he briefly described a number of illustrative cases.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at St. John's Hospital, Leicester-square, on Feb. 17th, Dr. Morgan Dockrell being in the chair.—Dr. J. L. Bunch showed a case of Para-Psoriasis in a man aged 47; the lesions were circumscribed on both legs with an absence of the eruptions on the knees and elbows; also a case of Pityriasis Rubra in a boy aged 19, and a case of Varicella in a child.—Dr. W. Griffith showed a case of Fungating Syphilis affecting the scalp; the patient had received an intramuscular injection of salvarsan (0·6 grm.) 24 hours previous; the lesions were drying up very rapidly.—Dr. J. L. Phibbs showed two cases of Syphilis.—Dr. Dockrell showed a case of Lichen Hypertrophicus, the eruption affecting the bends of both legs, and a localised patch was present on the thigh; also a boy with a Bullous Eruption which had improved considerably under vaccine treatment.—The discussion on bullous eruptions was adjourned.

THE CANCER HOSPITAL.—The annual meeting of governors of the Cancer Hospital, Fulham-road, London, was held on Feb. 23rd, Lord Northbrook presiding. The committee in their sixty-third annual report stated that during 1913 the number of patients admitted to the wards was 787, an increase of 97 on the preceding year's total, while in the out-patients' department 990 new cases were treated, the total attendance numbering 14,308. The committee also reported that after carefully going into the matter of the provision of further accommodation they had adopted a scheme for the extension of the east end of the building whereby an extra 20 beds would be provided. The work will be put in hand at once, and the cost of the building will be about £7000, the upkeep of the extra beds being about £2000 a year. The financial statement showed an excess of expenditure over income during the year of £8048 2*s*. 2*d*. Legacies to the amount of £20,788 had been received during the year. Lord Northbrook was re-elected president of the hospital, and the other officers were reappointed. Mr. Charles Ryall, responding to a vote of thanks to the honorary medical staff, spoke of the effect of radium in the treatment of cancer. He said they were going through the experimental stage of radium treatment, and there was an enormous field of research and treatment amongst the patients at the hospital, but they were hampered by the inadequate quantity of radium at their disposal, and their inability to procure more owing to its scarcity and enormous cost.

Reviews and Notices of Books.

Blood Pressure in General Practice.

By PERCIVAL NICHOLSON, M.D. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 157. Price 6*s*. net.

THE estimation of blood pressure by means of mechanical methods has recently been much more extensively employed than was formerly the case. The usual manner of judging the arterial tension in actual practice has, of course, been by digital pressure, but by means of the sphygmomanometer permanent exact records may be obtained. The result on any occasion may thus easily be compared with that obtained at other times. Some experience is necessary before accurate readings and interpretations can be obtained, and Dr. Nicholson's object in writing this work has been to furnish to the general practitioner a short treatise on blood pressure entirely from the standpoint of its practical significance and value. He has reviewed the literature on the subject, and has utilised such materials as he deemed of clinical value, avoiding what are as yet purely theoretical considerations.

In the first chapter the technique is explained, stress being laid on the auscultation method, by which not only the systolic but also the diastolic and pulse pressures can be accurately determined. After a description of the principal forms of instruments that have been introduced, the physiological factors involved are discussed, one point being especially emphasised—namely, that the maximum, or systolic, pressure by itself indicates mainly heart strength, but equally, if not more, important the peripheral resistance is shown by the minimum, or diastolic, pressure. In the past comparatively little work has been done on diastolic and pulse pressures—a fact due largely to the difficulty in obtaining reliable readings with the instruments available and the methods used, but Dr. Nicholson maintains that this is no longer the case when the auscultatory method is utilised. In the chapter on hypertension the various morbid states that may produce this condition are mentioned. It is, of course, of importance to discover these causes of high blood pressure early, as they may determine the onset of a condition which, if continued, will cause serious and permanent changes in the vessel walls, which in turn produce cardiac hypertrophy with its subsequent weakening, and followed by failure of compensation. The remarks on hypotension also will be found of interest, and numerous suggestions are made in reference to treatment.

There is not much that is original in this work, but for those engaged in general practice it will be found useful in providing information in regard to blood pressure which it would take some time to obtain from the literature on the subject, published as it is mainly in journals and text-books on general medicine.

Geschichte der Biologischen Theorien in der Neuzeit.

Von Dr. EM. RÁDL. I. Theil. 2. gänzlich umgearbeitete Auflage. Leipzig und Berlin: Wilhelm Engelmann. 1913. Pp. 351. Price, paper, 9 marks; bound, 10 marks.

THE first edition of this work was published eight years ago, and it undoubtedly is the most comprehensive experiment made, since G. Carus in 1876 published his well-known "History of Zoology," to give a detailed account of what the author calls the history of biological problems in modern times.

A short introductory chapter deals with the long bygone past and the Middle Ages, in which the author rapidly sketches the story of Hippocrates, Plato, Aristotle, Pliny, Galen, and their doctrines. A brief account is given of the origin of the earliest universities and of science amongst the laity, as represented by Albert the Great. This brings us to the chapter on the Renaissance, a singularly interesting one. Dante (1265–1321), Petrarca (1304–1374), and the invention of printing (1450) lead the author up to a very full account of Paracelsus, who was born in Maria-Einsiedeln, near Zürich, in 1493, just a year after Columbus discovered America. The career of this extraordinary man is set forth in full detail and with critical appreciation, including his period as professor in Basle (1526–28); his wanderings to and fro in Europe, his death in Salzburg in 1541 at the age of 48, his doctrines and his fantastic absurdities, his efforts to introduce simple chemical preparations instead of complicated decoctions of plants. To his medicaments he gave sometimes old names, but endowed those names with a new significance—i.e., arcanum, elixir of life, quinta essentia, mercurius vitæ. Surgery he threw overboard, and a foreign body embedded in a wound was not to be removed if it could not be removed simply by means of the fingers. The author's conclusion is that Paracelsus was a "biological philosopher," but no Titan and no superman, and he has been called "Lutherus Medicorum." The whole account of Paracelsus, which runs to nearly 70 pages, is most interesting.

This brings us to the "Dawn of Modern Science," with an account of Vesalius, Leonardo da Vinci (1452–1519), and Severino, professor of anatomy and surgery in Naples (1580-1656). Then we are given an account of the new Aristotelians, as represented by Cesalpinus of Pisa (1519-1603) and Harvey (1578-1657). Due weight is given to Harvey's work on embryology, a contribution to this department which is sometimes apt to be forgotten in view of his greater demonstration—the circulation of the blood. The account of Francis Glisson (1597-1677) and the Encyclopædists brings the reader to "the foundation of new scientific methods." The work of Leonardo, Galileo, Bacon, Descartes, Borelli, and Willis is successively considered, and then we come to the labours and achievements in the seventeenth century of Redi, Malpighi, Swammerdam, and Leeuwenhoek, and in the eighteenth century of Réaumur and Spallanzani. There is a short chapter on the Paracelcists as represented by van Helmont, and another on the Vitalists as represented by von Stahl of Halle (1660-1734) and Bichat (1771-1802). The rise of biology in the eighteenth century is next considered, including an account of the doctrines, influences, and work of Leibnitz, Ch. Bonnet, and A. von Haller. Epigenesis, cell theories, and the changes that take place in the germinal layers of the blastoderm form the basis of another chapter. The work of Linnaeus, Buffon, and "French morphology" are successively passed in review. Under "French morphology" we have an account of the origin of morphology—human, animal, and botanical—as represented by the work of Cuvier and Geoffroy St. Hilaire. This brings Part I. to an end.

This work is, so far as we know, the only one of its kind, and we heartily congratulate the author on it. He shows, by his luminous notes and references, as well as by the critical acumen to be found throughout its pages, his equipment for a difficult task. We look forward with pleasure to the appearance of the second part. We should state, although the author does not mention the fact, that he is *privat-docent* of the history of the biological sciences in the University of Prague.

LIBRARY TABLE.

Noted Murder Mysteries. By PHILIP CURTIN. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1914. Pp. 302. Price 7s. 6d. net.—The literature of famous crimes is growing apace, but Mr. Philip Curtin's book is in a different category from any other book that we have met with, written on the ever-fascinating subject of murder. Nine stories are here told with great literary dexterity, only the essential facts of each case being mentioned, and for these it should be said that the author has gone, where possible, directly to authoritative sources. The crimes which are treated of have been selected because, when all the available evidence is viewed and reviewed, there are features in them which are inexplicable. The mystery of these murders is not so much that doubt is present as to the perpetrator, as that the character, whether of the aggressor or of the victim, renders the circumstances of the murder inexplicable. Each narrative is made to point a short moral, these being indicated by such sub-titles as "Can a Wife Love too Well?" this being the terrible assassination of the Duchess of Praslin; "The Unwanted Child," this being the curious acquittal of the Marquis de Nayve of the murder of his wife's illegitimate son; "Where Platonic Love may Lead," this being the famous crime of the Peltzer brothers. Another point that all the fearsome episodes have in common, as well as their incomprehensible psychology, is the fact that all centre round women. The author finds that in the study of murder it becomes more and more apparent, as we look deeper into the origins of each event, that, in all those cases which come to be elevated to the position of famous murder mysteries, a large part is played by some form of illicit love. The mystery of the death of Charles Bravo certainly depended for its obscure features upon Mrs. Bravo's unintelligible intrigue between her first and second marriages. If the extraordinary story of Mrs. Bravo's amatory escapade had not come out a verdict of death by misadventure would probably have been returned. On the other hand, the story as the jury heard it furnished no logical reasons for murder or suicide. The part played by illicit love in the cases of Madeleine Smith, the Marquis de Nayve, Henri Chambige, and Edith Carew is obvious, while in the two best stories regarded simply as sensational plots, the De la Pommerais affair and the Peltzer affair, sex also played its part. These two stories are far less familiar to English readers than are the mysteries of Marie Lafarge and Madeleine Smith, but as a ready-made scenario for a dectective novel it is extraordinary that one or other of them should not have been elaborated into a famous sensational romance. The invention by the Peltzer brothers of a murderer, who had a name, an address, a business, and a fairly large personal acquaintance, but who had no existence, reads like a typical Gaboriau scheme; while Wilkie Collins would have revelled in the situation created by De la Pommerais, when he persuaded his victim to poison herself. It is much to the credit of Mr. Philip Curtin that within the limits of a few pages he has been able to make the stories of these two elaborate crimes quite lucid. If he is not a novelist he had better become one at once.

A Course of Lectures on Medicine to Nurses. By HERBERT E. CUFF, M.D. Lond., F.R.C.S. Eng., Medical Officer for General Purposes to the Metropolitan Asylums Board. Sixth edition. London: J. and A. Churchill. 1913. Pp. 281. Price 3*s.* 6*d.*—The object of the author has been to provide a book of reference for nurses which will enable them intelligently to follow the progress of their cases, to grasp the meaning of symptoms, to understand some of the reasons which influence the physician in his adoption of different methods of treatment, and the results to be expected therefrom. In this endeavour he has succeeded well. To avoid becoming a mere machine a nurse should know something about the anatomy and physiology of the affected organ, and should have an elementary knowledge of the changes produced by disease, to enable her to understand the various points necessary for carrying out her instructions efficiently. Dr. Cuff has in no way overstepped the mark, and has written neither too much nor too little. The book can be recommended to those for whom it has been written.

Annals of Tropical Medicine and Parasitology. Series T.M. Vol. VII., No. 4.—No fewer than 12 contributions, all of scientific interest or practical value, are included in this number of the Annals. The first article is entitled "Studies in Blackwater Fever," by Professor J. W. W. Stephens, of Liverpool University, who considers in it some of the most important factors bearing upon the malarial origin of the disease, collected by him after a thorough examination of recent literature on the subject. A long list of references is given as well as a number of statistical tables.—Dr. John Gordon Thomson and Dr. David Thomson give the results of their researches on the growth and sporulation of the benign and malignant tertian malaria parasites in the culture tube and in the human host. This line of investigation was in the first instance suggested to these workers by Sir Ronald Ross, and it is of interest to know that they were able to cultivate the malignant tertian parasite on 12 occasions after the method of Bass and Johns, and the benign tertian three times. This paper is illustrated by a coloured plate showing the cultural forms of malarial parasites and by some microphotographs demonstrating the sporulation of the malignant tertian parasite.—The Trichonocardiases (fungus affections of the human hair), of which three varieties have been met with in the Anglo-Egyptian Sudan, form the subject of a joint paper by Dr. Albert J. Chalmers, Director of the Wellcome Tropical Research Laboratory, Khartoum, and Captain W. R. O'Farrell, R.A.M.C., protozoologist to the same institution. The causal agent of this hair affection of the axilla or pubis in man is Nococardia tenuis (Castellani, 1911) either alone or in association with other organisms. This paper is illustrated by a coloured plate and several microphotographs.—Dr. Chalmers, together with Captain A. D. Stirling, R.A.M.C., senior medical officer with the British troops at Khartoum, describes an interesting epidemic of trichonocardiasis which occurred in the Welsh Regiment while stationed at Khartoum; 42 soldiers were affected, the disease spreading from man to man. The primary cause of the outbreak was traced to an infected washerman employed by the regiment.—Hereditary infection, with special reference to its occurrence in the hyalomma Ægyptum infected with crithidia hyalommæ, is the subject of an article by Captain O'Farrell, illustrated by three plates. Crithidia hyalommæ is a flagellate parasite occurring in the hæmocœlic fluid, salivary glands, ovary, oviducts, and ova of hyalomma Ægyptum, the common cattle tick of the Anglo-Egyptian Sudan.—Dr. B. Blacklock and Dr. Warrington Yorke supply a paper on trypanosoma vivax in rabbits, and the same authors discuss in a second contribution the probable identity of trypanosoma congolense (Broden) and T. nanum (Laveran); their investigations lead these experts to express the opinion that in the present state of our knowledge we can only conclude that T. congolense and T. nanum are the same parasite.—The pathogenicity of nosema apis to insects other than hive-bees is discussed by Dr. H. B. Fantham, D.Sc., and Dr. Annie Porter, D.Sc. These investigators believe that the "bee disease" is pathogenic to other kinds of bees as well as to wasps, some butterflies and moths, blowflies and crane-flies, and the sheep "ked."—The same two experts furnish an article on Herpetomonas stratiomyiæ, n.sp., a flagellate parasite of the flies stratiomyia chamelon and S. potamida, with remarks on the biology of the hosts (illustrated).—Mr. Henry F. Carter, F.E.S., contributes a paper on certain mosquitoes of the genera Banksinella (Theobald) and Tæniorhynchus (Arribalzaga), and Mr. Fred. Theobald, F.E.S., supplies a description of new culicidæ from the Sudan.—Dr. J. G. Thomson and Dr. Fantham publish in a paper the preliminary results of their investigations on the cultural forms of Babesia (piroplasma) canis *in vitro*. These experts succeeded in cultivating this organism in two out of four attempts, employing the method described by Bass. This contribution is illustrated by several microphotographs. This number concludes the seventh volume of the Annals, a table of contents and an index being appended.

Lectures on Medical Electricity to Nurses. By J. DELPRATT HARRIS, M.D. Durh., M.R.C.S. Eng., Senior Surgeon and Medical Officer in Charge of the Electrical Department, Royal Devon and Exeter Hospital. London: H. K. Lewis. 1913. Pp. 88. Price 2*s.* 6*d.* net.—This manual is intended for hospital trained nurses seeking employment in the electrical department of a hospital or undertaking the treatment of a private patient under the supervision of a medical man. It is written in a clear and elementary manner and covers every branch of work likely to be demanded of those for whom it is intended. It is not meant for medical men, but doubtless many electro-medical specialists and others will be glad to know that such a book is available to put into the hands of those who work under them. Chapters are given on the X rays, Finsen light, high-frequency currents, and diathermy.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. VII., No. 26. January, 1914. Oxford: At the Clarendon Press. Subscription price 25*s.* per annum; single numbers 8*s.* 6*d.* net each.—The contents of this number are: 1. Intracranial Serous Effusions of Inflammatory Origin, by W. B. Warrington.

It is claimed that the progress of an inflammatory effusion within the sk [illegible] that the effusion may [illegible] that the symptoms m [illegible] of brain disease It is suggested that the primary cause may be a near or distant focus of septic infection, and that the toxins not the micro organisms, lead to the formation of excess of fluid —2 The Experimental Formation of Acute Gastric Ulcers, by T R Elliott In the course of some experiments with tetrahydro β naphthylamine hydrochloride it was found that when injected subcutaneously into guinea pigs it caused the formation of acute gastric ulcers These were due to the action of the gastric juice on the damaged mucous membrane They form in one or two hours, and heal with great rapidity unless they become septic Repair epithelium covers the raw surface within three days, and from this the glands are regenerated later —3 *A Contribution to the Study of Bronzed Diabetes, by* J F. Gaskell, A F Sladden, R L Mackenzie Wallis, P T Vaile, and A E Garrod A careful and detailed record of the clinical, pathological, and chemical features of a case of this disease, together with an account of necropsy and histological examination of the organs, is given Some interesting general observations upon the nature of the disease are also appended —4 On the Infective Nature of Certain Cases of Splenomegaly and Banti's Disease by A G Gibson In the spleen of six cases, three with the picture of Banti's disease, two with splenic enlargement and fibrosis, and one with splenomegaly, there were found appearances suggesting the parasitic invasion of the organ by a streptothrix organism —5 *On Pneumo pericardium, by* John Cowan, Archibald W Harrington, and J R Riddell—an interesting record of a case of pneumo pericardium, with some admirable reproductions of skiagrams, through which the condition was diagnosed These appear to be very rare at present, the only other published being that of Wenckebach's case of artificial pneumo pericardium —6 Critical Review The Pituitary Body, by Emil Goetsch A useful critical summary of the present state of our knowledge in regard to the structure, functions, and pathology of the pituitary body is given, together with a bibliography

The Military Surgeon Published by the Association of Military Surgeons of the United States, Washington, D C Editor, Major CHARLES LYNCH, U S Army Price $3 50 per [illegible]

the year was the lowest on record (not precisely stated, but apparently 25 5 per 1000) The sick rate from disease was 39 85 per 1000 in the Philippines and 22 57 in the United States, the difference is supposed to be the effect of tropical service The admission rate was 823 94 also the lowest on record The invaliding rate has decreased, in part because men can no longer be invalided [illegible] but must be brought before a boa [illegible] of the hospital corps is displayed [illegible] *fourth of the numbers required* [illegible] has now a good shoe thanks to a committee of which Major E L Munson, of the Medical Corps, was president From the Philippines it is reported that "many skin lesions of the leg are due to the constant wearing of leggings" According to the report of the Surgeon General of the United States Navy for the fiscal year 1913 the rates in the navy also appear unusually low, the daily sick rate being 25 9, and the admission rate 787 per 1000 Deaths have also decreased Typhoid inoculation has justified itself, in 80 000 completely inoculated only 7 cases had occurred, and of these 4 were in the same small tropical station where the vaccine used had deteriorated An increase in the *admissions for venereal disease is reported, but the number* of days under treatment is lessened and that is thought due to prophylactic measures, which if used within six hours will prevent venereal disease It is recommended that prophylactic packets be put on sale in ships' canteens and that all persons on the sick list for venereal disease shall forfeit their pay The advantage of this last recommendation has been long considered chimerical; it must be the frequent inspections which have brought it again into practical politics A medical reserve corps has been formed, but the medical department of 292 officers is 55 (16 per cent) below strength Thirty-four recommendations close the abstract, of them we may note (1) that receiving ships be abolished and their crews sent to naval barracks which should be built, (2) barracks in dockyards to take the crews of all ships undergoing long refits, (3) boards to report on the best illumination of ships and on "crew's heads" (water closets), (4) a hospital ship for each fleet, (5) for each ship a sanitary barber's shop a garbage destructor, and a laundry, (6) no drugs to be sold in canteens, (7) identification labels to be worn by officers and men during every battle drill (general quarters); (8) short courses for medical officers, (9) white uniform to be replaced by khaki, and (10) the abandonment of the Naval Tuberculosis Sanatorium at Las Animas, Colorado, though earlier in the report its results are stated as "in a large proportion of cases gratifying" Some of these recommendations will introduce English practices into the United States navy, and on the other hand others here made have long been desired by our own naval medical officers In the National Guard of the United States (the *territorial volunteers), antityphoid vaccination is being more* and more used, in some corps recruits have to be vaccinated before enlistment "To overcome the evil influence of 'devil doctors' in Samoa the commandant of the naval station at Tutuil has established clinics for natives" A special campaign against trachoma is being undertaken in Kentucky, an unusual note states that an officer of the public health service has been detailed to ascertain "the cause of the high rate of physical efficiency of certain" Government printers Now that it has been made difficult to procure opium and cocaine in the United States many drug victims have turned to heroin the sale of which is not as yet carefully restricted under State laws —*A very important address on Medical* Ethnology, by Lieutenant Colonel C E Woodruff, should be carefully read, we can only touch here on one point—the importance of skin pigment to animals and men in countries of bright sunshine The white domestic pig cannot survive in lands with intense sunshine nor can white fox terriers or other pets be acclimatised in India All tropical animals have dark skins as a protection against light Man is little more independent of his climatic environment, different races have vitality varying in different climates and stand up differently against infections In Portland, Oregon (latitude of Bordeaux) Scandinavians resist tubercle well, but in Los Angeles California (latitude of Agadir), they succumb *quickly, though Italians show there good resistance* The Baltic type of man, like an Alpine plant, wants a certain latitude or altitude, or a certain cloudiness, as protection from light (shown by statistics produced from various sanatoriums and otherwise) The triumphant Vandals did not last two centuries in Northern Africa The Baltic stock survives in the mountains of Tennessee but has died out in Louisiana, and is not holding its own even in the St Lawrence Valley The climate of the United States does not suit blondes Colonel Woodruff has never seen a yellow haired soldier in the United States Army who had ancestors in the country before 1848, the students, too in New England Universities are all dark Hippocrates noted how phthisis in the Mediterranean killed fair people Nature does not alter individuals, it kills those who are unsuitable The practical conclusion is that we should more carefully choose the climate to which we send consumptives and other invalids, not sending blondes to places of bright sunshine nor brunettes to cloudy districts

MISCELLANEOUS VOLUMES.

AMONG the miscellaneous volumes calling for notice this week industrial effort claims two books on dairying, reminiscence lends a page to the history of the New [illegible] elf in a book of [illegible] the hard facts of [illegible] handbooks and a [illegible]

British and Colonial Dairying, by G SUTHERLAND THOMSON, F R S Edin (London Crosby Lockwood and Son 1913 Pp 464 Price 9*s*), is intended for school, farm, and factory use, and it presents a very good account of the dairy methods pursued not only in this country but also in the colonies References to dairy *development could* scarcely be complete without an allusion to the busy milk countries Denmark and Sweden, and in Chapter VIII some interesting particulars in regard to the policy of Danish and Swedish milk industries are given The subject is treated from both a practical and scientific standpoint, and the author's account will be of value to dairy farmers and others concerned in the industrial preparation of dairy products.—— A kindred booklet is *Farm and Creamery Buttermaking*, by C. W. WALKER-TISDALE, F.C.S., and THEODORE R. ROBINSON, F.S.I. (London: The "Dairy World" Office. 1913. Pp. 194. Price 3*s.* 6*d.* net). This is a capital little guide for prospective buttermakers. The treatment of the subject is both practical and scientific. Thus there are useful directions given for the analytical examination of dairy products, while their practical management is clearly set forth. Cleanliness is very properly insisted upon throughout.

From his recollections of the now distant New Zealand war in the "sixties," and his more recent experiences in Natal and the Transvaal, Colonel G. HAMILTON-BROWNE has put together in *Camp Fire Yarns of the Lost Legion* (London: T. Werner Laurie, Limited. Illustrated. 1913. Pp. 301. Price 12*s.* 6*d.*), a cheery and gossiping volume of amusing stories and tales of adventure. Some of these are distinctly thrilling, being first-hand accounts of fighting against odds and marvellous escapes in the New Zealand operations, and again in Zululand. The accounts of being lost in the Bush, one of the author's own adventures in New Zealand, and the other of two instances in South Africa, are most realistic.

A pleasing little book of song by "A PHYSICIAN" is *Time and the Timeless* (London: Henry J. Glaisher. 1914. Pp. 95. Price 2*s.* 6*d.* net), described by the author as Songs of Shadow and of Hope. It consists of many charming, and not a few deep, thoughts expressed in smooth and flowing verse. The author has the "lyric lilt." Some of the numbers have a medical theme—"This Little Bistoury," "In Memoriam: Sir Andrew Clark," "To a Brother Physician." We quote the author's introductory verse—

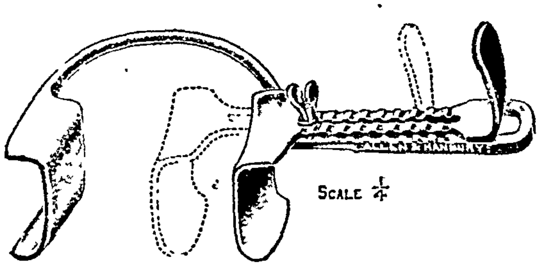
> A few stray flowers of Song
> Found in my garden. Call them only weeds,
> But Nature sowed the seeds,
> And unto her do they belong.

The twenty-fifth annual issue of the *Public Schools Year Book, 1914*, edited by H. F. W. DEANE, M.A., F.S.A., and W. A. EVANS, M.A. (London: The Year Book Press. Pp. xxxii.-835. Price 5*s.* net), contains information likely to be sought by parents, schoolmasters, and others. The first part of the book is devoted to a summary of the proceedings at the last Headmasters' Conference, and this is followed by a list of public schools, with particulars of the governing bodies, staffs, admission, entrance examinations, fees, prizes, and so forth; while the second part gives details of scholarships at the public schools, examinations for entrance to the universities, and conditions of admission to the navy, army, Civil Service, and other professions. Lists of preparatory schools, with particulars relating to them, and articles on various professions, as well as lists of school books, are included among the excellent features of this publication.—— Although *The International Whitaker* (London: Messrs. Whitaker; New York: The International News Company. 1914. Pp. 511. Price 2*s.*) is only in its second year, its merits have given it a place equal with that of the more local publication from which it takes its name. It contains information with regard to the geography (physical and political) of all the countries of the world, compiled from official sources; and in many cases revised by Government departments. There is an index of 36 pages, making reference to statistical, geographical, and commercial information concerning the whole world easily accessible. The crude linen cover of last year has given place to a neat cloth binding and the corners of the book have been rounded.—— *Herbert Fry's Royal Guide to the London Charities*, edited by Mr. JOHN LANE (London: Chatto and Windus. 1914. Pp. 359. Price 1*s.* 6*d.*), gives in alphabetical order the name, date of foundation, address, objects, annual income, chief officials, and so forth, of the various charities of London. The preface contains a valuable summary of the large charitable donations and bequests of the past year.—— In THE LANCET of August 3rd, 1912, p. 298, we noticed a little twopenny pamphlet by Dr. J. T. RICHARDS, of Battersea, entitled *National Health Insurance, a Plain Exposition of the Act*, in which the writer, putting himself in the position of the insurable person, discusses what his payments are to be, how they are to be made, what the benefits are, and how they are to be obtained. This pamphlet has now reached a fourth edition, and is published in two forms—first, as before, price 2*d.*, with the changes made in the Amending Act, 1913; and secondly, price 6*d.*, with marginal references to the sections of the Acts from which the condensed statement is made. The pamphlet is merely explanatory, not argumentative, and can be cordially recommended.

New Inventions.

A SEMI-AUTOMATIC ABDOMINAL RETRACTOR.

THIS instrument, a modification of the well-known Edmunds's retractor, consists, essentially, of two parts: (1) the main portion—i.e., a handle with hoop and blade, which retracts towards the surgeon; and (2) a detachable shaft with a different sized blade at either end. When one blade is used for retracting the other serves as an adjusting handle. The two are united by a screw joint at the shoulder of the main portion. To prevent any slip the contact surfaces of the two parts are serrated, one turn of the screw being sufficient to lock the retractor at any required degreee of retraction. The advantages of this instrument are, first, it can be used as an easily adjusted automatic retractor, any slip being quite impossible. Secondly, if the anæsthesia is not giving sufficient stability of abdominal muscles the assistant can steady the instrument by means of the handle. He can also manipulate it to give exposure to any region of the operation field, as required by the surgeon, on either side of the incision. This frequently eliminates the necessity of two or more assistants being called upon to retract. Thirdly, the lipping on the retracting blades allows the abdominal walls to be well held up for the purpose of reducing intestines.



Messrs. Allen and Hanburys, Wigmore-street, London, W., are making this instrument for me.

Portland Court, W. JOHN EVERIDGE, F.R.C.S. Eng.

THE HAMILTON COMBINED CANTEEN AND FILTER.

THE construction and arrangement of this combined canteen and filter were described in THE LANCET of Oct. 7th, 1911. Since this notice appeared Miss O. M. Hamilton, its inventor, has obtained a bacteriological report upon its germ-filtering efficiency from Dr. John Eyre, of the Bacteriological Laboratories, Guy's Hospital. The report shows that the porous candle used filters rapidly and gives a sterile filtrate. Bacillus prodigiosus (an organism much smaller than typhoid and dysentery germs) only came through in appreciable numbers on the fifth day. In one experiment the original water in the canteen contained 15,000,000 B. prodigiosus per cubic centimetre. These results speak well for the filtering power of the porous material employed. The canteen is a small curve-shaped cistern in which is suspended a protected case enclosing the germ-proof filtering cylinder. All parts are easily detachable and therefore cleaned, while the efficiency of the filter can be ensured by mechanical cleaning and by placing it in boiling water when that is available. An important feature consists in the provision made for drawing the water by suction. As we pointed out before, the soldier does not drink from it by tipping the apparatus to his lips as from an ordinary drinking utensil, but by drawing the water from a nipple at the top by suction. It is a very neat and compact apparatus.

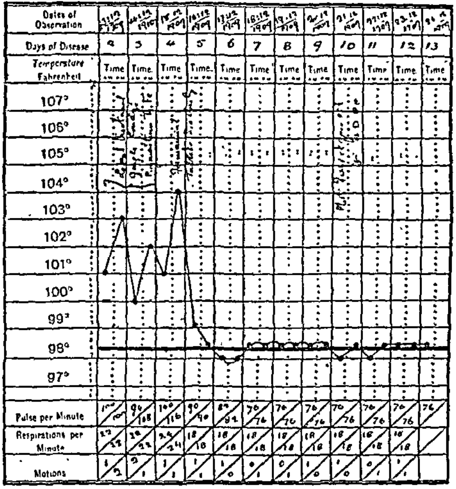
The Value of Formamint in Reducing the Temperature of Tonsillitis.

From the "Medical Times," Sept. 24th, 1910.

CASE II.

Suppuration of both Tonsils.

"This was of a very severe character, there being several foci of suppuration on the left tonsil, and one large one on the right. Local applications of warm fomentations, warm gargles of . . . . . . lotion, and painting the tonsils and fauces with pigmentum ferri perchloridi had absolutely no effect. Formamint rode over the whole difficulty immediately, and a morbid pathological condition was soon converted to a healthy physiological state."



The rapid rise of temperature which is so characteristic of Tonsillitis, and often disturbs the peace of mind of the patient's relatives by causing a more or less marked delirium, yields rapidly to the exhibition of Formamint Wulfing, as the above chart, selected from several published in the "Medical Times," strikingly demonstrates.

In another case, a patient with temperature of 103° F. at 4 p.m., bad headache, huskiness of voice, who was only able to swallow a few ounces of milk with pain and difficulty, was ordered two Formamint Tablets four times a day. At 9 p.m. the temperature had dropped to 99° F.; the huskiness and headache had gone; he drank 12 ounces of milk without any discomfort, and stated that he was feeling fine. By next morning his temperature was normal, the size of the tonsils and congestion of the fauces had considerably diminished, and he made an uninterrupted and rapid recovery.

Similar results have been reported by many other observers, notably Dr. H. Schoppler, in a German Military Hospital, who published a remarkable set of cases in the "Reichs Medizinal Anzeiger." He proved that, **"when Formamint was given, the patients recovered on an average in four days, whereas, with gargles only, eight days are required to effect a cure."** In many cases, patients admitted to hospital on one day were discharged fit for service on the following day.

The rapid subsidence of the temperature was accompanied by the equally prompt disappearance of all other discomforts to which sufferers from Tonsillitis are subject.

The apparent antipyretic action of Formamint Wulfing is due to the germicidal action of the nascent formaldehyde evolved in the mouth when the tablets are sucked. The bacteria which cause the pyrexia are destroyed *in situ*, and, the bacterial toxins being prevented from developing, the inflammatory action ceases.

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See "BRITISH MEDICAL JOURNAL," February 4th, 1911, page 245.

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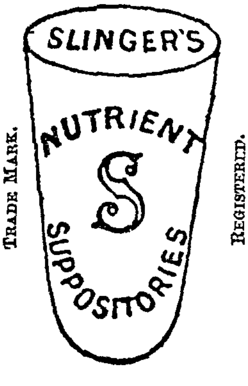

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THE LANCET.

LONDON: SATURDAY, FEBRUARY 28, 1914.

The Housing Conditions in Dublin.

The Departmental Committee appointed last November by the Local Government Board for Ireland to inquire into the housing conditions of the Dublin working classes has lost no time in preparing its report,[1] which was presented to Parliament last week. The making of this speed has perhaps brought it about that the report is less full in certain directions than we might have desired, and is probably responsible for a certain lack of arrangement which gives rise to various repetitions. Nevertheless, the report covers well the ground indicated by the terms of reference to the Departmental Committee, and the suggestions made by the committee will form the groundwork of plans for future action. Above all things, the report is outspoken, and no attempt is made by the committee to gloss over the existence of grave abuses in the municipal management of the metropolitan city of Ireland.

For purposes of discussion the document may be divided conveniently into three parts. The first part deals with the present housing condition of the working classes; the second with the powers and activities of the local sanitary and housing authority, the Dublin corporation; and the third embodies the suggestions of the committee for the remedy of the grave troubles whose existence has long been patent, not only to sanitarians and medical men, but to all thoughtful citizens. The conditions under which the working classes in Dublin are housed have been described recently in our columns[2] with some particularity of detail, and in terms that leave no doubt as to their revolting nature. It is not necessary to repeat what we then said, for, indeed, it is all common knowledge now. The general position may be summarised as follows. Some 63 per cent. of the total population of Dublin belong to the working classes, apart from domestic service; and this proportion of the inhabitants live in tenements for the most part of not more than four rooms. About half of this number live in the so-called "tenement houses," each of which accommodates anything from four to eight families. And a little over 20,000 families occupy only one room each. The proportion of the population occupying one-room tenements is thus 22·9 per cent. of the whole, and is higher than can be found anywhere else in Great Britain and Ireland, the urban centre approaching nearest to this sinister situation being the Finsbury district of north London, where 14·8 per cent. of the population inhabit single-roomed tenements. The tenement houses of Dublin are divided by the sanitary staff of the corporation into three groups, the third and worst of which groups is classified under the description "houses unfit for human habitation and incapable of being rendered fit for human habitation." More than one-fourth of the tenement houses of Dublin fall into this group, and 22,701 persons inhabit these houses. Apart from this overcrowding in unsuitable dwellings, the committee find the general sanitation of tenement houses far from satisfactory as regards cleanliness and closet accommodation. The closets are insufficient in number, are common to several families and to both sexes, and are, practically without exception, in a filthy condition. Human excreta are scattered about the yards and on the floors of the closets, and in some cases in the passages of the houses. Our readers can draw the picture for themselves when they recall the factors that go to make it—the careless and poverty-stricken crowds, the seething and disgusting environment. From all this it will be seen that the corporation of Dublin has not used its powers to compel cleanliness in tenement houses with any energy or success, but a sadder moral than this has to be drawn, in the opinion of the Departmental Committee. The paragraphs of the report which deal with the sanitary administration are, indeed, a direct indictment of the entire sanitary administration of Dublin, though it is right to add that one of the committee, Mr. J. F. MacCabe, does not support his colleagues in their blame of the corporation.

The committee, having summarised the sanitary powers of the corporation as regards their housing powers, conclude: "The plea of the corporation in regard to the insufficiency of their powers would have considerably more force were it supported by evidence of a rigid administration of existing powers." This want of a firm administration is declared responsible for the demoralisation of landlords as regards their duties, as well as of the working classes themselves, and has increased the number of inefficient workers in the city. It is shown, indeed, that the most flagrant and persistent breaches of the by-laws have been connived at. A worse thing remains to be told. It is within the powers of the corporation on a certificate from the sanitary staff to grant a rebate of 25 per cent. of the rates due on dwellings suitable for artisans and workmen, and fulfilling certain conditions. This rebate has been granted in many cases on houses classified as "unfit for human habitation," and in more than one instance the landlords receiving this rebate are members of the corporation. Such a state of affairs will certainly receive the closest attention, but the report gives in several places credit to the corporation for securing in recent consigner to treat the goods before shipment; and the alternative, some method of treating the imported raw material on its arrival in this country in such a way as to destroy the infective spores or render them innocuous, has not yet been evolved—in fact, all the processes hitherto suggested, if efficient, have rendered the treated goods valueless from the commercial point of view.

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[1] Report of the Departmental Committee appointed by the Local Government Board for Ireland to Inquire into the Housing Conditions of the Working Classes in the City of Dublin. London: Wyman and Sons. 1914. Price 1s. 1d.

[2] The Lancet, Nov. 8th, 1913, p. 1334.

Of preventive measures other than those directed primarily to the imported raw material, cleanliness in the persons and habits of those employed in the wool and hide trades is of the first importance. This point has recently been emphasised by the facts elicited during the progress of inquests in Bradford and Southwark respectively. In the former practically a fortnight elapsed between the cessation of work in a wool factory and the onset of the symptoms which terminated in generalised anthrax, but during the whole of that time the same shirt did duty day and night, and its wearer slept with another man who was still employed in the factory from which it was suspected the infection was derived. In the second case, nearly as long an interval occurred between the unloading of a consignment of Siberian hides and the appearance of a charbon on the chin of a casual waterside labourer, and during this interval the man was an inmate of a large common lodging-house under conditions the reverse of cleanly. In both these cases the inference is that the infective spores were carried upon the skin surface or the clothes of either the victims or their intimates for many days before they gained access to the tissues of their final hosts.

Annotations.

"Ne quid nimis."

A COMPLIMENTARY DINNER TO SURGEON-GENERAL GORGAS.

IT is proposed to give a complimentary dinner to Surgeon-General Gorgas, formerly chief of the Sanitary Department at Panama, now Surgeon-General of the U.S. Army, as a mark of professional appreciation of the splendid work achieved by him and by his two assistants, who are included in the invitation. The dinner will be held on Monday, March 23rd, at 8 P.M., and the place will be announced in good time. The proposal is supported by, among others, Sir Thomas Barlow, President of the Royal College of Physicians of London; Sir Rickman Godlee, President of the Royal College of Surgeons of England; Sir Francis H. Champneys, President of the Royal Society of Medicine; Sir David Ferrier, President of the Medical Society; Sir Havelock Charles, President of the Society of Tropical Medicine and Hygiene; Sir William Osler, Regius Professor of Medicine, Oxford; Sir Clifford Allbutt, Regius Professor of Medicine, Cambridge; Surgeon-General Arthur W. May, Director-General of the Naval Medical Service; and Sir W. Launcelot Gubbins, Director-General of the Army Medical Service. Sir Thomas Barlow has consented to take the chair, and it is hoped that the company will be thoroughly representative of the medical profession in London. The price of the dinner ticket (including wine) will be 25s., and as the number of seats is limited application should be made without delay to Mr. J. Y. W. MacAlister, the Royal Society of Medicine, 1, Wimpole-street, Cavendish-square, London, W. Viscount Bryce, until recently our Ambassador to the United States, and Mr. Lewis Harcourt, the Colonial Secretary, have already signified their intention of being present at the dinner.

THE CRAZE FOR HYPODERMIC MEDICATION IN ITALY.

Professor Ferreri, of the University of Rome, seizes the opportunity in a recent number of the *Policlinico*[1] of drawing attention to the alarming proportions this morbid psychic phenomenon has reached in Italy. Hypodermic medication has been elevated to the position of a universal panacea, and the populace is being slowly embalmed by it. Not only are heroic remedies, approved by the official pharmacopœia, introduced under the skin, but all the mysterious specialities, which, thanks to extensive advertisement in the press, are recommended either by medical practitioners, by real or fictitious members of religious orders in the odour of sanctity, or by manufacturers of chemical products on the verge of bankruptcy, are welcomed subcutaneously by a highly credulous public. Why is it, Professor Ferreri asks, that no one has hitherto had the courage to cry out against this monstrous liberty granted to those who are not doctors, and yet incur no responsibility in practising hypodermic medication? He considers that several factors have contributed in inducing this pernicious current of human therapeutics: the ignorance of the populace towards the elementary principles of health, scanty respect for sanitary laws and the acquiescence, not to say pusillanimity, of the medical profession, always at discord and therefore incapable of making its influence felt by the Government and Parliament. In France and Germany the law prosecutes those who, not being doctors, usurp medical functions. In this country, though Professor Ferreri probably does not quite follow the distinction, there is no law against quackery, but only legislation to prevent an unqualified practitioner pretending that he is on the Medical Register. In Italy, however, they allow chemists, druggists, nurses whether trained or not, monks, nuns, and quacks of all kinds not only to give injections of substances in common use or of known composition, but to invent and manufacture them for their own ends. One of the worst results of this strange liberty accorded to those who exploit the functions of medical practitioners is the increasing number of neuropaths who, attracted by the possibility and ease of cure without having to make known their ailments, practise on themselves injections of substances which are often highly dangerous, and in this manner the ranks of the army of morphinomaniacs, cocainomaniacs, and etheromaniacs are largely reinforced. In his own experience Professor Ferreri finds that numbers of patients present themselves for treatment with affections of the ear, nose, and respiratory organs due solely to saturation of the organism with more or less poisonous substances introduced by means of hypodermic medication. To remedy the evil he suggests the passing of a law prohibiting the use of hypodermic syringes except by medical men, and the sale of any speciality for injection which is not manufactured under State control. We may order things slightly better in this country, but nevertheless a perusal of Professor Ferreri's article makes us aware that we too have our grave shortcomings in similar directions.

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[1] Il Policlinico, Anno xxi., Fasc. 6, Feb. 8th, 1914, Roma.

METROPOLITAN ASYLUMS BOARD: THE POSITION OF ASSISTANT MEDICAL OFFICERS

We are informed that an Association of Medical Officers in the hospitals' service of the Metropolitan Asylums Board has recently been formed. The object of this association is, in general terms, to organise its members for the promotion of their efficiency and the defence of their interests. It is felt by the officers of this branch of the medical service under the Metropolitan Asylums Board that the time has come for a reconsideration of their status. The association, through its executive, will act as a means of communication between the assistant medical officers as a whole and the managers of the Board, and it is hoped that by collective representations, put forward in this way, various grievances which now exist may be remedied. The junior medical officers in fever hospitals and similar institutions undertake very responsible duties, and any endeavour by legitimate means to improve their position and prospects, and so to render the service more attractive, deserves the sympathetic attention of the authorities of these institutions, and should be supported by the medical profession generally. It is well known that the Metropolitan Asylums Board has lately had difficulty in filling junior medical posts, and one of the anomalies of the situation is that locum tenents have been receiving much better remuneration than the experienced officers already in the hospitals' service. The honorary secretary of the new association is Dr. E. G. L. Goffe, North Eastern Hospital, Tottenham, N.

TREATMENT OF EPITHELIOMATA BY SUNLIGHT.

Heliotherapy is much neglected in this country, but considerable attention has been devoted to it of recent years on the continent, particularly in the treatment of various forms of tuberculosis, in which remarkable results have been obtained. The new field of therapeutics opened up by the discovery of the X rays and radium suggests possibilities not yet discovered in the greatest form of radiant energy available on this earth—the sun's rays. In the *New York Medical Journal* of Feb. 7th Dr. H. H. Seelye has recorded several cases of cure of epithelioma by means of sunlight—a method which he claims to be not less efficient than the use of the costly element radium or the X rays. He simply focuses the sun's rays on the growth by means of an ordinary magnifying glass. For a number of years he has found this treatment invariably successful, chiefly in obstinate ulcerative patches on the face that repeatedly shed scabs only to leave a raw and bleeding base, which never heal under ointments, powders, or other local treatment, and recur in ever increasing extent year after year. Such growths are usually of moderate size and are always malignant. Dr. Seelye focuses the clear sunlight on the sore for 10 or 15 minutes at a sitting. If a scab is present he concentrates the rays on it till the patient complains of burning. Then he lengthens the focus so as to cover with the rays an area of an eighth of an inch or more beyond the scab. Every few minutes he induces burning again for a second, not to a degree of cauterisation, and then he applies the rays more mildly. After about ten minutes the scab will look darker. During the next few days it will become more prominent and loosened. The treatment is repeated every day or two till the scab may be easily removed, leaving a raw bleeding ulcer. Then is the time for a powerful application. A few granules of cocaine are first applied. After three or four minutes an exposure so strong as almost to cauterise the ulcer may be borne and alternated with milder applications for about 15 minutes. Milder applications at intervals of three to seven days through the scabs, or immediately after their shedding, will usually complete the cure within three to six weeks. The scabs gradually become thinner and more superficial, and the sore bleeds less after their removal. At last healthy normal skin with scarcely a trace of scar is left. Rarely are more than 8 to 15 applications necessary. The following are examples. A man, aged 80 years, had a sore on the right cheek three-eighths of an inch in diameter, which had been treated without success by several practitioners for years. Scabs fell off or were picked off at intervals, leaving an angry ulcer. After three weeks use of the sun's rays focused as described healthy skin formed over the ulcer and later no sign of the sore or scar remained. Several years have elapsed without recurrence. A woman, aged 80 years, had an epithelioma over the left eyebrow three-quarters of an inch in diameter. It had been treated without avail for several years by various local measures. It always failed to heal and was gradually enlarging. After two weeks' treatment with the sun's rays the ulcer was smaller and shallower and healthy looking. In two more weeks it was completely cured and left no scar. The only case of failure out of seven cases narrated occurred in an old and feeble man. The whole of one cheek was eaten away by a deep, angry, irregular, ulcerating growth of the size of the hand. It was extremely painful and cocaine and morphine were freely used. After half a dozen exposures the ulcer was gradually filling up and there were lessening of secretion and a tendency to heal. But failing strength caused the patient to cease his visits and he took to bed, where he died in a few weeks.

MANGE AS A HUMAN DISEASE.

The study of comparative pathology has opened the eyes of the medical profession to the fact of the close relationship that may exist between all members of the animal kingdom, including man himself, in regard to the extension of various diseases beyond their original sphere of influence. Glanders and anthrax have long been known to be communicable from animal to man. That some intertransmission may exist in tuberculosis has been more lately established. Aphthæ, tapeworm, sleeping sickness and other diseases transmissible from animal to man by biting insects come to mind. The transmission of mange from dogs to human beings was commented on in an illuminating article in the *Veterinary Journal* for November, 1912,[1] and the same journal in its February issue this year publishes a further clear case by Mr. John Buscomb, M.R.C.V.S., in which two Pomeranian puppies suffering from sarcoptic mange infected first the maid who cared for them, and later two neighbours, each of whom took charge of one of the puppies during the absence of their owners. The irritation in the affected human beings was very severe and demanded medical attention. The editor of the *Veterinary Journal* suggests that in the case of a puzzling skin complaint in human beings a consultation with a veterinary *confrère* may help to enlighten the medical attendant. He further insists that the order making mange a notifiable disease should be extended to dogs; and having in view the intimate relations between dogs and the human family we are entirely in accord with him.

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[1] The Lancet, Nov. 23rd, 1912, p. 1449.

THE PANCAKE.

ALTHOUGH there is some obscurity surrounding the origin of the pancake, it is certain in early times to have been associated with more or less hilarious proceedings, whether religious or pagan in origin. One obvious inference is that Shrove Tuesday, or pancake day, was made a festive occasion in view of the approach of the fasting season. The pancake would thus seem to have symbolised a sort of joy-day on which the people meant to have a fling before dietetic restrictions were imposed upon them, and while the full effect of shriving was to be felt. Considered from a physiological point of view, the custom of eating pancakes is commendable; it is a satisfactory fact that they have become popular sweets at other seasons than Quinquagesima, for they are nourishing and digestible food. A review of the ingredients which provide the formula shows at once that the pancake is a singularly complete diet, containing, that is to say, all classes of food materials. It is rich alike in proteins, carbohydrates, fats, and mineral substances, all in an acceptably assimilable form. It is doubtful whether there is a single manufactured or patent food upon the market which can claim such a valuable range of dietetic properties. Apart, moreover, from its dietetic value the pancake possesses an important pharmacology, inasmuch as it is rich in lecithin, which is now known to have a special significance in the processes of nutrition and metabolism.

LARYNGEAL PARALYSIS IN MITRAL DISEASE.

RECOGNITION of paralysis of the recurrent laryngeal nerve in certain cardio-vascular diseases is not of recent date, for as early as 1852 Legroux described a condition of partial aphonia or hoarseness, due to compression of the nerve in a case of aortic aneurysm. Until a few years ago it was thought to take place exclusively in affections of the aorta and some forms of pericarditis of a plastic type, but latterly this symptom has been observed, although not very frequently, also in the course of cardiac valvular disease. For the most part the left recurrent nerve is implicated for well-known anatomical reasons which render it more susceptible to stretching and compression in cases of mitral disease, but interesting cases have been reported by Rossi where the right side was affected, and by Quadrone where both sides were affected. The explanation usually given is compression on the loop of the nerve exercised by an enlarged left auricle, and it is not necessary to insist on the great value of radioscopy in the study and diagnosis of such cases, which are rare, not more than 50 having been published hitherto. In a recent number of the monthly review published in connexion with the Ospedale Maggiore at Milan Dr. D. Tronconi relates a case of ordinary mitral insufficiency which had reached the stage of failing compensation and where a left laryngeal paralysis which developed at the outset of the compensatory failure persisted after this condition had disappeared. The radiograph given of the case confirms the positive and negative aspects of the clinical examination and allows the exclusion of mediastinal or aortic lesions, showing that the laryngeal paralysis is directly and solely dependent on the cardiac valvular lesion. Not only this, but it also proves that the heart, although enlarged, is not displaced, while it is evident that the pulsating prominence of the left auricle goes far to disprove the theory put forward by Kraus that the paralysis in such cases is due to the nerve being stretched in consequence of the displacement downwards of the enlarged heart and vessels.

A SIMPLE AND EFFECTIVE METHOD OF DISINFECTING TYPHOID STOOLS.

IN the *Boston Medical and Surgical Journal* of Jan 8th Dr. H. Linenthal and Mr. H. N. Jones, bacteriologist to the Massachusetts Board of Health, have pointed out the inadequacy of the usual method of disinfecting typhoid stools, which consists in sprinkling over them a little chloride of lime or sulpho-naphthol and promptly depositing them in the water-closet without allowing the disinfectant to mix with them. If the excreta are accessible to flies the danger of the disease being spread is obvious. The bedside disinfection of stools is not such a simple matter as it might appear. The proper utensils are often not available, and the thorough mixing of the stool with the disinfectant and the necessary exposure to its action will in the great majority of cases not be carried out, even when detailed instructions have been given. Dr. A. H. Dotty made experiments with the various disinfectants usually recommended as they are generally employed. He found that at the end of 20 hours' exposure but one eighth of an inch of the fæcal mass was disinfected. Heat—boiling water or steam—is the only effective method of dealing with typhoid stools, but an apparatus for the purpose is not available in households. A method to be of general use must require only such utensils as are available in any household and so simple as to require little skill. A method was devised by Dr. A. M. Kaiser in the Hygienic Institute of Gratz University, and was described by Dr. Prausnitz at the Fifteenth International Congress on Hygiene and Demography held in Washington in September, 1912. It consists in adding enough hot water to cover the stool and then about one-fourth of the entire bulk of quicklime, covering the receptacle and allowing it to stand for two hours. The hydration of the lime generates enough heat to destroy the typhoid bacillus. Dr. Linenthal and Mr. Jones tested this method. They first determined the amount of heat generated and the length of time it is retained. To make the conditions as rigid as possible they used an ordinary tin pail with a loose fitting cover. To a litre of cold water they added from 300 to 400 grammes of ordinary commercial quicklime. They found that the heat generated varied. In some experiments the temperature rose to 80° or even 90° C. in about ten minutes; in others it took 20 to 30 minutes for the temperature to rise to 75°, and a temperature of over 60° was maintained for 1½ hours. In several observations the temperature did not rise above

55°, which was due to the poor quality of the lime, although it came from the same lot as the better lime. If, however, hot water, ranging in temperature from 50° to 65° C., was used in the experiments, the temperature invariably rose to 75° or more in 10 minutes, and in 20 minutes reached 85° and often 90°, and a temperature of over 60° was maintained for 1½ hours or longer. The temperature was maintained for a longer period when an earthen vessel was used than when a tin vessel was. This process therefore generated enough heat to destroy the typhoid or any other organism with the exception of spore bearers. The next question was whether the heat was sufficiently penetrating to destroy the organisms in the centre of the fæcal mass. To determine this capillary tubes containing living typhoid organisms were buried in the centre of the fæcal mass, small lumps of lime, about 400 grammes, were distributed over it, and enough water was added to cover the stool, and the mixture was allowed to stand for 1½ hours. In all these experiments cold water was used. The capillary tubes were then taken out and broken into a bouillon culture. No growth took place. Dr. Linenthal and Mr. Jones conclude that the addition of about a cupful of commercial unslaked lime to a typhoid stool will generate enough heat to kill the typhoid organism. Cold water may often suffice, but it cannot be depended on owing to the varying quality of the lime. Hot water from 50° to 60° C. will always give the desired results. The lime used should be broken up in small pieces and distributed over the stool. This simple and efficacious method should, they consider, take the place of the various methods now recommended.

HYPERPLASIA OF THE MUCOUS MEMBRANE OF THE UPPER RESPIRATORY TRACT.

Two cases of a peculiar hyperplasia affecting the mucous membrane of the upper respiratory tract are described by Dr. A. Logan Turner in the *Journal of Laryngology, Rhinology, and Otology* for February. He has been able to find but four similar cases in the literature; three of these were published by Sir Felix Semon in THE LANCET of Feb. 25th, 1905, and the fourth by Dr. A. Brown Kelly in THE LANCET of April 6th, 1901. The condition is thus obviously one of great rarity. In Dr. Turner's first case, a man, aged 44, in previous good health, was awakened during the night by pain in the throat and dyspnœa. These symptoms progressed, pyrexia followed, and on the fourth day tracheotomy became necessary. Two days later, when Dr. Turner saw him for the first time, the nose and nasopharynx were not abnormal; the uvula and soft palate were œdematous; the epiglottis was red and swollen, and curved backwards so as to form a narrow horseshoe slit; the arytenoids were swollen, and no view of the interior of the larynx could be obtained. There was no history of syphilis, and no benefit was derived from antisyphilitic treatment. After ten days the tracheotomy tube was removed and the patient got along fairly well, though subject to colds with some respiratory trouble, for six years. He then again suffered from laryngeal obstruction, which nearly made a second tracheotomy necessary. Vaccine treatment was then instituted and no further attacks have occurred since. Three and a half years after the second attack of obstruction Dr. Turner found the uvula and soft palate normal, but there was still much infiltration of the epiglottis and arytenoids. His second case was that of a woman, aged 52, who had been under observation for over a year. Her symptoms and signs were similar to those of the first patient, but less severe; tubercle, syphilis, and rhinoscleroma, as well as myxœdema were ruled out of court. Summarising the six cases, Dr. Turner notes that there were four women and two men, ranging in age from 30 to 52. All had enjoyed good health, and showed no evidence of disease elsewhere than in the throat. Absence of ulceration characterised all the cases, and, probably owing to this, pain was not complained of. The vocal cords and the voice were always unaffected. The local conditions vary slightly from time to time, but even after 10 and 14 years neither ulceration nor cicatrisation can be detected. Histologically a great similarity of structure is exhibited; chronic inflammatory changes are present without demonstrable signs of any specific infective disease. No specific micro-organisms have been found. Arsenic, iron, mercury, iodides, and thyroid gland have proved of little value in treatment. Salvarsan has not been tried. Dr. Turner concludes that this is a definite pathological condition of the fauces, pharynx, and larynx which cannot be placed in the category of any recognised disease affecting this part of the body.

THE HOUSE OF THE ROYAL SOCIETY OF MEDICINE.

AT a recent dinner of the Council Club of the Royal Society of Medicine, the President of the Society, Sir Francis Champneys, announced that the Society had now received its title-deeds from Lord Howard de Walden, with a certificate from the Land Registry that the title was a good one. These deeds convey to the Society for 1000 years, save one, the site upon which their new building has been erected. The grant is subject to a moderate ground rent, and for all reasonable purposes the Society has a free hand in dealing with the property. This must be very satisfactory to the Fellows, and particularly to those who have worked hard to establish the Society as a permanent and prosperous institution. It should encourage those who have not already done so to support the building fund, for many Fellows hesitated to do so while the lease, as purchased by the Society, secured a tenure only for 80 years.

TUMOURS OF THE PREFRONTAL REGION OF THE BRAIN.

Dr. L. Newmark, of San Francisco, has published in the *California State Journal of Medicine* for November, 1913, a series of four cases of tumour of the anterior pole of the hemisphere which present certain features of interest from the diagnostic and other points of view. Much diversity of opinion still exists as to the clinical picture produced by tumours in this region. It will be remembered that Dr. A. W. Campbell, in his brilliant investigations on the localisation of cerebral function, came to the conclusion that the importance of the prefrontal region was exaggerated; that on histological grounds (inferiority of nerve cell and fibre supply) it could not be held to share the functional importance of the better developed frontal cortex placed further back; and he expressly declared that "although it may have a future in front of it, at present its evolution, both structural and functional, is incomplete." Dr. J. Shaw Bolton, however, has combated these views, basing his reasoning also on the results of minute histological investigation. He has shown that the prefrontal is the last region of the cerebrum to be evolved, and the first to undergo dissolution in mental decadence. He has apparently demonstrated that it is the chief focus of the subevolution and dissolution of the cerebrum occurring in amentia and dementia, conditions the characteristics of which are decrease, instability, and loss of voluntary control over the processes of cerebral association. The admirable quality of the investigations of such histologists as Campbell and Bolton renders the contradiction of their results the more difficult to explain, so that it is desirable to turn to other evidence for a solution of the problem. There is undoubtedly a persistent, if scarcely justifiable, tendency on the part of physicians to associate intellectual activity with this prefrontal region, a tendency strengthened by a consideration of some recorded cases of frontal tumour that have closely simulated general paralysis. But it must be stated clearly that the experience of the neurologist is, on the whole, definitely against the occurrence of recognisable mental symptoms as characteristic and pathognomonic of tumours of the prefrontal region. Dr. Newmark's experience bears out that of others who are in a position to affirm that "operative interference in this region entails no mental deterioration." That peculiar and well-recognised form of mental change known as "Witzelsucht" or "moria," in which the patient exhibits a sort of fatuous jocularity out of proportion with the gravity of his condition, is not of itself characteristic of prefrontal disease, though not infrequently noted in frontal cases. Dr. Newmark bases his diagnoses on such physical signs as the loss of the sense of smell, local tenderness on pressure over the bone, and earlier and more severe involvement of the optic disc on the affected side. Yet it is the view of many who are in a position to judge that no one of these signs is by itself sufficient. In fact, it may be said that our real knowledge of the exact function or functions of the prefrontal and frontal regions is still in an unsatisfactory condition.

YELLOW FEVER AND INFECTED SHIPS.

THE question of how yellow fever infection may be conveyed from one country to another by means of shipping is one of serious importance to all maritime nations having trade with tropical countries in which the disease is endemic. At the last International Sanitary Congress held at Paris it was agreed by the delegates that a ship can only be regarded as infected from the yellow fever point of view if along with the presence of stegomyiæ an actual case of the disease has occurred on the ship. Some experts of experience maintain, on the other hand, that the occurrence of the malady on board a vessel is not necessary to render it infected, and that from the practical standpoint a ship is dangerous if the insect transmitters of the disease have come on board at an infected port, and have not been destroyed by some effective process of fumigation, even if no person on the vessel is suffering from yellow fever. It is admitted that the disease has at times broken out on board a ship which has been subjected to repeated fumigation. Attention has recently been drawn to this subject by an editorial in the last issued quarterly number, of the *Yellow Fever Bureau Bulletin* (vol. iii., No. 1), in which is also published a short but interesting note by Dr. Juan Guiteras, director of public health in the island of Cuba. This note relates to the occurrence of three cases of yellow fever on the s.s. *Hydra* bound from the Brazilian port of Manaos to Havannah. This vessel while loading at Manaos, a port on the River Amazon, notorious for the number of cases of yellow fever reported there annually, had two of its crew attacked by the disease, one patient dying and the other being left behind in hospital. Four days before sailing the port authorities fumigated the vessel to destroy mosquitoes and 24 hours before sailing the process was repeated at the request of the master of the ship. She sailed from Manaos on June 17th, 1913, calling at Para on the 21st and reaching St. Lucia on the 27th. As the *Hydra* had come from an infected port she was again fumigated according to the regulations. On June 27th the mate complained of illness, but this was not regarded as due to yellow fever infection. On June 30th the vessel arrived at Guantanamo, in Cuba, and reported that the steward had fallen ill on the previous day; his attack was at the time ascribed to malaria, but he grew worse and died on July 5th, the ship having sailed on the previous day for Cienfuegos, where she arrived on July 8th. But meanwhile the boatswain was attacked on July 3rd and died on the 6th. The ship was fumigated for the fourth time at the quarantine station of Cienfuegos and left for Havannah on July 11th, arriving there the same day. The captain of the *Hydra* was attacked by yellow fever at Havannah on July 14th—that is, three days after his arrival. Thus it appears that between June 13th and July 9th this ship was fumigated four times, but notwithstanding this three cases of yellow fever, all ship's officers, occurred on board, and two of them died. The first of these cases was attacked, apparently, 12 days after leaving Manaos. Dr. Guiteras suggests that the respective attacks followed the opening of the holds for the landing of cargo at the ports of call, and that this afforded opportunity for the ship's officers to be bitten by any of the infected stegomyiæ which had escaped destruction by the poisonous vapours of the fumigation. This escape was probably due to the mosquitoes seeking refuge in holes or crevices to which the fumes did not penetrate. It is not improbable that persons employed at the ports of call to unload cargo might also have been bitten by these mosquitoes, and a local focus of the infection might have developed on shore. There appears to be some reason for thinking that possibly the routine fumigations performed at certain ports are not effective and that perhaps it is not so easy after all to destroy stegomyiæ completely on a ship which has its cargo *in situ* at the time of fumigation.

Dr. H. H. Tooth, Dr. Risien Russell, Dr. J. S. Collier, and Dr. S. A. K. Wilson have been elected corresponding foreign members of the Société de Neurologie of Paris.

ROYAL MEDICAL BENEVOLENT FUND GUILD.—The annual general meeting of the guild will be held on Tuesday, March 3rd, at University College Hospital Medical School, Gower-street, W.C., at 3 P.M., the Viscountess Bryce in the chair. The business includes presentation of the annual report and election of the executive committee. The hospital will be open to members of the guild and their friends by the kind permission of the general committee.

MEDICINE AND THE LAW.

Dean v. *Rubian Art Pottery, Limited.*

IN a recent appeal from the judge of the Staffordshire county court some interesting points were raised with regard to the liability of employers under the Workmen's Compensation Act in cases of industrial poisoning. Dean, a potter, had worked in March and April, 1913, for the Rubian Art Pottery, Limited, in a process in which lead was used, and he died from lead poisoning on May 15th. The employers mentioned, when a claim was made against them by the dependents, added as respondents previous employers for whom the deceased had worked in lead processes more than 12 months before his death. When in the service of these Dean had apparently contracted lead poisoning, and there appears to have been no doubt that he suffered from it for some time and that it hastened his death. The county court judge had held that there was no evidence that the death had been accelerated by the employment by the Rubian Art Pottery Company, and that the employment by the additional respondents had been more than 12 months before death, so that neither was liable. The dependents appealed and the Court of Appeal upheld in effect the decision of the county court judge, holding in particular that there was nothing in the Workmen's Compensation Act, 1906, Section 8, under which the claim was made, to exempt the claimant from proving that in fact the "accident" arose out of and in the course of the employment; and also that April 19th (the last date of working for the respondents) was not "at or immediately before" May 15th, the date of death, so as to raise a presumption in the applicants' favour.

Bailey v. *The Insurance Section of the Coöperative Wholesale Society, Limited.*

This was an appeal from a county court judge sitting at Leicester. The plaintiff, a member of an Approved Society, claimed sickness benefit upon a medical certificate which stated that she was "suffering from debility and unable to work." The defendants declined to pay on the ground that no specific disease was mentioned, and objected that the county court had no jurisdiction, the case being one for decision under Section 67 of the National Insurance Act. The plaintiff claimed that the decision in Heard *v.* Pickthorne was in her favour on the question of jurisdiction, and the deputy county court judge, accepting this contention, tried the case and decided in the plaintiff's favour. The Divisional Court, upon appeal, were of opinion that the case was distinguishable from that of Heard *v.* Pickthorne, and that consequently the question was one to be determined according to the rules of the society and that the county court had no jurisdiction.

Keats v. *the "Weekly Budget," Limited: Keats* v. *Conolly and Others.*

In January Mr. W. J. C. Keats successfully sued the *Weekly Budget* for libel, recovering £100 damages. A second action brought by the same gentleman as plaintiff has since been tried by the Lord Chief Justice and a special jury with a similar result (£100 damages), the principal defendant being Mr. J. C. Conolly, editor of the *Dulwich, Peckham, and Camberwell Post.* Both actions arose out of comments upon the same series of acts, allegations being made to the effect that Mr. Keats inflicted brutal chastisement upon sick boys in the Camberwell Infirmary by flogging them with a whip. In the case against Mr. Conolly one of the articles complained of was headed, "Guardians; Dr. Keats's Cat-of-five-tails; Flogging Children in the Infirmary." Another was a copy of a letter which appeared in *John Bull*, and was headed "Flogging Sick Lads in an Infirmary." The articles referred in some detail to the ages of the boys chastised, and gave a highly coloured version of the nature of the chastisement, which consisted, as was not denied by Mr. Keats, in whipping them on the buttocks with five strands of moderately thick string. The whole matter had been brought before the guardians by the Countess de Lormet, a member of the board. Mr. Keats explained in his evidence that the refractory boys were not sick, but convalescent, and that their conduct to nurses and generally their refusal to yield to discipline rendered the conduct of the infirmary impossible without chastisement, which in no case was of a character that could reasonably be complained of as brutal or excessive. He pointed out that a refractory boy could be turned out of a voluntary hospital, but that this could not be done in a Poor-law infirmary. He had been recently awarded an increase of salary by the board of guardians. Corroborative evidence as to the boys' conduct and the punishment was given by a nursing sister. Mr. Keats is to be congratulated upon the successful issue of the actions forced upon him by attacks which left him no alternative but to defend his character from cruel charges. These if true would have proved him unworthy to hold his appointment, and the London and Counties Medical Protection Society, who through their solicitors, Messrs. Le Brasseur and Oakley, conducted his cases on his behalf, may also be congratulated upon the successful issues achieved. How the lady guardian who objected to Mr. Keats's action or the editor who attacked him would maintain discipline among the wilder spirits in Camberwell Infirmary by gentler means than those adopted by Mr. Keats is a matter which they may be able to explain, but to allow them to give a practical example of their methods would probably be a dangerous experiment. It must be remembered that lack of discipline among a few of the members of a ward, where some are weaker, more helpless, and more ill than they, is likely to inflict considerably more mental and physical suffering upon the majority than Mr. Keats imposed upon two or three who by their acts deserved it.

A Medical Witness's Expenses.

At the Widnes county court recently a medical man sued a solicitor for 14*s.* 6*d.* balance of a fee for services rendered. The plaintiff had given evidence in a case in which the defendant was solicitor for the successful party and had been allowed £20 for witnesses' expenses. Of this sum the defendant had paid 10*s.* to the plaintiff, and denied all further liability for the balance, which included railway fares. His honour found that there had been some undertaking to pay and that the medical man was entitled to a reasonable fee. He awarded him 10*s.* 6*d.* in addition to the 10*s.* already paid.

Soda and Milk.

A curious point was raised and may lead to an appeal in a case in which a confectioner was summoned at Bow-street police court for refusing to sell for analysis a sample of milk exposed for sale in his shop. It was stated that it has become a custom for confectioners to sell soda and milk, and to refuse to sell milk when asked for it. In the case in question a jug was on the counter labeled "Pure milk," but the manager declined to sell any. The summons was dismissed, but it was intimated by Mr. Rotton, who prosecuted, that the prosecutors, the Westminster City Council, might appeal upon the point of law involved. It is clearly desirable that they should do so if they are advised that they have a prospect of success. As Mr. Rotton submitted to the magistrate, the duty of milk inspection will be difficult to carry out efficiently if a defendant can prevent a sample from being taken in the manner described. There was nothing in this instance to show that sales were not genuinely confined to milk diluted with soda-water, but even in that case the customer should be protected against adulterated milk being used. In the case of those who sell milk without soda-water, it should not be possible for them to prevent its purity from being tested by alleging a trade in "milk and soda."

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS.

THE New York Association for Improving the Condition of the Poor began nearly two years ago a most interesting experiment in the treatment of tuberculosis among the poor, and now issues a valuable report upon the progress of the essay and the lessons of the first completed year of working.

An investigation made some time ago by the association, which is entirely philanthropic in constitution, showed that 55 per cent. of the widows receiving assistance from the association were widows because the breadwinner had died from tuberculosis. To relieve the poverty and disease of such families a scheme was planned which resulted in the establishment of what is termed a "home hospital"—in other words, a block of workmen's dwellings was hired and filled with families one or more members of which were tuberculous. A woman superintendent was installed and physicians visited regularly. Hygiene was rigorously attended to, the children were provided with a roof playground, and the tuberculous members of the families received adequate treatment. Let it be added that the experiment was not designed to supplant sanatorium treatment, but to ascertain whether it was possible in a crowded city to check the spread of tuberculosis. The waiting lists of such sanatoriums as are available for the poor of New York are so over-full that for thousands of tuberculous poor spreading contagion in dark and dirty tenements it was felt that it was a case of home treatment or nothing. The agencies already in operation—dispensaries, hospitals, and clinics of various kinds—were concerned with individual cases rather than with families of which there were tuberculous members. These agencies there was no intention to supplant; the field was found to be so large that the association felt able to supplement them by attending especially to the social and family side of the tuberculosis problem.

In selecting families for admission to the home hospital preference was given: first, to families in which tuberculosis and poverty were more or less incipient; secondly, to those believed to possess sufficient intelligence to coöperate in the experiment; thirdly, to those in which dependency was due to tuberculosis in the wage-earner; fourthly, to those in which tuberculosis of the mother rendered it inadvisable for family life to continue in existing conditions; and in general to poor families made dependent by tuberculosis, in which the disease was not more than moderately advanced. The care bestowed included regular physical examination of the actual patients, sputum tests, segregation of the advanced cases, outdoor life on balcony, roof, or the adjacent park, complete rest when necessary, graduated exercise, nursing, and medicines. Instruction was also given regularly in cooking, sewing, care of infants, cleanliness, hygiene, and sanitation.

The results of the first year's work were so encouraging that the association decided to extend the scale of its operations by doubling the capacity of the home hospital. The report deals fully with the statistics of that year, and the results disclosed are wonderfully good. Twenty-seven families, containing 135 individuals, were admitted. Seventy-nine of these persons were patients or suspects. No new cases developed among the non-infected members of these families, and only one death was recorded among the tuberculous. 61 per cent. of the adult patients who followed directions and were at least six months under treatment were apparently cured; in 22 per cent. the disease was arrested; and 11 per cent. were much improved. Among the children the results were also highly satisfactory; most of them were undeveloped and puny on admission, but left the home hospital healthy and strong. The cost of the experiment came to nearly £7000; and it has also to be borne in mind that much unremunerated labour was given by doctors and others; the average stay of each family was 233 days. Still, even then, the cost compares favourably with that of sanatorium treatment for the 79 tuberculous; and, in addition, the non-tuberculous members of the families were supported and saved from the ravages of the disease. When it is remembered that these results were secured in the first year of the experiment, among patients most of whom would otherwise have received no treatment, with the family unit preserved, and in the heart of New York, there seems to be good ground for believing, as the association does, that a real contribution is being made to the problem of tuberculosis combined with poverty and to the control of these two allied enemies of health in the congested districts of large urban communities.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the seventeenth meeting of the Royal Commission on Venereal Diseases evidence was given by Dr. S. Coupland and Dr. C. Hubert Bond, Commissioners in Lunacy.

The witnesses stated that since 1876 the figures published by the Lunacy Commissioners showed that there had been a gradual rise in the recorded proportion of syphilitics admitted to asylums, but it could not be inferred that this increase denoted an increasing incidence in actual prevalence of syphilis; the increase shown in the figures might mean nothing beyond more thorough investigation and observation in respect to this particular. Throughout the whole period there has been a preponderance in the proportion of male cases in the private over that in the pauper class, and generally a similar but less markedly higher incidence in females of the pauper than in those of the private class. For the period 1908–12 the figures showed that of the male admissions 11·8 per cent. of the private cases and 8·7 per cent. of the pauper cases were syphilitics; for females the corresponding figures were 0·7 per cent. among private and 1·4 per cent. among pauper patients. Much variation in the degree of incidence appears in the inmates of different asylums, but speaking generally those institutions that receive inmates from industrial districts show higher ratios than those which deal mainly with an agricultural and rural community. About 60 per cent. of the cases known to be syphilitic admitted in the period 1908–12 were general paralytics.

At the eighteenth meeting evidence was given by Sir Thomas Barlow, Bart., K.C.V.O., President of the Royal College of Physicians of London.

Sir Thomas Barlow dealt first with the importance of congenital syphilis and its effect as a hindrance to the birth-rate and to healthy development. He described how syphilis frequently manifests itself in the offspring of a woman affected by the disease in producing first one or more miscarriages and afterwards children apparently healthy at birth, but sooner or later suffering from various affections. He stated that the life of these children at school, especially amongst the humbler classes, was most unpromising, and that many of them became perfectly useless members of society. He also drew attention to the fact that syphilitic infants are notably liable to convulsions, and that in these children the convulsions may inaugurate very serious diseases of the brain.

Sir Thomas Barlow next gave illustrations of the latency of the disease, and pointed out the importance of realising how very widespread the damage caused by congenital syphilis may be, and that causes, for which no explanation can be given, may revive manifestations of congenital syphilis in many different situations. He emphasised the importance in cases of this kind of maintaining continuous supervision of both parents and families. He considered that the ideal method of treatment and prophylaxis would be, given a syphilitic infant, that both parents should be under medical supervision and medical inspection at frequent intervals, and other children of the family born subsequently should be inspected also at frequent intervals, and that this surveillance should continue for several years.

Sir Thomas Barlow said it was very difficult to estimate whether venereal diseases were less prevalent at the present time than formerly. He thought, however, that there was a general improvement in the morality of the population, and that the higher standard obtaining ought in time to produce less prevalence of the diseases. He thought it very hopeful for any educational crusade that might arise out of the work of the Commission, as the public mind was in a state of most promising preparedness to receive admonition and to recognise the moral obligation of these things being dealt with. He was of opinion that special education or instruction on these subjects was very desirable. It might be begun possibly in the public schools, but certainly in the university period. More generally he thought that instruction should be given directly young people were sent to work. In any educational measures he would urge that medical practitioners, and if possible family doctors, should be the backbone of the organisation. Besides the family doctor he thought that for young children the person to impart knowledge was the mother. He believed that something had been done in Western Canada in the way of special teaching to women of sexual conditions, and this teaching had been of a wholesome character and had been given without any offence whatever.

Sir Thomas Barlow was not in favour of notification of venereal diseases, and it was his opinion that there was much more to hope from general enlightenment and education. Apart from education, he considered that what was required practically was the provision of facilities for effective and complete treatment in the early stages and the improvement of those facilities to the utmost. He also advocated strongly the subsidisation by the Government of pathological research.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8453 births and 5203 deaths were registered during the week ended Saturday, Feb. 21st. The annual rate of mortality in these towns, which had been 18·4, 16·5, and 15·6 per 1000 in the three preceding weeks, further declined to 15·0 per 1000 in the week under [illegible] weeks of the current quarter the [illegible] these towns averaged 17·0 per [illegible] rate recorded in London during the same period. Among the several towns the death-rate last week ranged from 5·3 in Hornsey, 5·7 in Ilford, 6·2 in [illegible] 6·7 in Oxford, and 7·9 in [illegible] id in South Shields, 21·0 [illegible] and in Swansea, 27·3 in Bury, and 27·5 in Burnley.

The 5203 deaths from all causes were 227 fewer than the [illegible] included 397 which were [illegible] ist [illegible] 97 [illegible] h, [illegible] 33 [illegible] om [illegible] es last week was equal to 1·1, against 1·1 and 1·2 per 1000 in the two preceding weeks. The deaths attributed to measles, which had been 79, 64, and 89 in the [illegible] rose to 115 last week, [illegible] al death-rates of 2·3 in [illegible] 5·2 in Burnley, and 5·6 in [illegible] to whooping-cough, which [illegible] to 129 in the six preceding [illegible] k; the highest death-rates [illegible] nsea, 1·7 in Rochdale and in Newport (Mon.), and 1·8 in Great Yarmouth and in Bury. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 93, 66, and 68 in the three preceding weeks, further rose to 70 last week, and included 27 in London and 5 in Manchester. The deaths attributed to diphtheria, which had been 85, 70, and 64 in the three preceding weeks, further fell to 52 last week, of which 21 were recorded in London and its suburban districts and 3 in Norwich. The deaths referred to scarlet fever, which had been 29, 38, and 37 in the three preceding weeks, declined to 33 last week, and included 4 in London, 4 in Liverpool, and 3 in Birmingham. The fatal cases of enteric fever, which had been 21, 21, and 14 in the three preceding weeks, rose to 17 last week, of which 5 occurred in London, 3 in Sheffield, and 2 in Birmingham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3599, 3554, and 3537 at the end of the three [illegible] day last; [illegible] 460, 379, [illegible] ospitals also contained on Saturday last 1176 cases of diphtheria, 307 of whooping-cough, 93 of measles, 81 of enteric fever, and 1 of small-pox. The 1229 deaths from all causes were 22 [illegible] in the corresponding week of last year.

Of the 5203 deaths from all causes in the 97 towns, 206 were attributed to various forms of violence, and 426 were the subject of coroners' inquests. The causes of 37, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, and in 68 other smaller towns. Of the 37 uncertified causes of death last week 7 were recorded in Birmingham, 5 in Liverpool, 3 in South Shields, 2 in Rotherham, and 2 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In [illegible] tion [illegible] 1167 [illegible] week [illegible] mort. [illegible] these Scotch towns averaged 19·0, against a corresponding rate of 17·0 per 1000 in the 97 large English towns. Among [illegible] from measles, 16 from infantile diarrhœal diseases, 14 from diphtheria, 6 from scarlet fever, 3 from whooping-cough, and 1 from enteric fever, but not one from small-pox. These 82 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 1·1 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 48, 34, and 41 in the three preceding weeks, were 42 last week, of which 25 occurred in Glasgow, 10 in Edinburgh, and [illegible] infants (under 2 years) referre[illegible] which had been 12, 7, and [illegible] weeks, rose to 16 last week, a[illegible] Dundee, 2 in Coatbridge, and 2 [illegible] of diphtheria, which had been [illegible] preceding weeks, rose to 14 last week, and included 4 in Glasgow, 4 in Dundee, and 4 in Aberdeen. The deaths attributed to scarlet fever, which had been 10, 6, and 7 in the three preceding weeks, were 6 last week, of which 2 occurred in Glasgow and 2 in Kirkcaldy. The deaths referred to whooping-cough, which had averaged 6 in the earlier weeks of the quarter, declined to 3 last week, which were recorded in Glasgow, Coatbridge, and Kirkcaldy respectively. The [illegible]

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 622 births and 441 deaths were registered during the week ended Saturday, Feb. 21st. The annual rate of mortality in these towns, which had been 24·0, 21·9, and 18·9 per 1000 in the three preceding weeks, rose to 19·1 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these Irish towns averaged 22·1 per 1000; in the 97 large English towns the corresponding rate did not exceed 17·0, while in the 16 Scotch towns it was equal to 19·0 per 1000. The annual death-rate last week was equal to 20·7 in Dublin (against 14·2 in London and 15·6 in Glasgow), 18·8 in Belfast, 19·0 in Cork, 10·1 in Londonderry, 23·0 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 17·8 per 1000.

The 441 deaths from all causes were 4 in excess of the number in the previous week, and included 26 which were referred to the principal epidemic diseases, against 37 and 35 in the two preceding weeks. Of these 26 deaths, 10 resulted from infantile diarrhœal diseases, 6 from whooping-cough, 4 from diphtheria, 3 from measles, and 3 from scarlet fever, but not one from enteric fever or from small-pox. The mean annual death-rate from these diseases last week did not exceed 1·1 per 1000, which coincided with that in the 97 large English towns, while in the 16 Scotch towns the corresponding rate reached 1·9 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 6, 7, and 8 in the three preceding weeks, further rose to 10 last week, of which 4 were recorded in Dublin and 2 in Tralee. The deaths referred to whooping-cough, which had been 7, 6, and 9 in the three preceding weeks, fell to 6 last week, and included 3 in Dublin. The 4 fatal cases of diphtheria, 2 of which occurred in Belfast, were slightly in excess of the average in the earlier weeks of the quarter. The deaths attributed to scarlet fever, which had been 5, 10, and 9 in the three preceding weeks, declined to 3 last week, and were recorded in Belfast, Cork, and Limerick respectively. The deaths referred to measles, which had averaged 6 in the earlier weeks of the quarter, fell to 3 last week and were all registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 157, 132, and 99 in the three preceding weeks, further fell to 91 in the week under notice. Of the 441 deaths from all causes, 129, or 29 per cent., occurred in public institutions, and 8 resulted from various forms of violence. The causes of 17, or 3·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Morris Charles Langford has been placed on the Retired List at his own request (dated Feb. 19th, 1914).

The following appointments have been notified:—Staff-Surgeons: A. A. Forrester to the *Implacable;* L. F. Cope to the *Victory*, for R.N. Barracks, temporary; and L. Warren to the *Halcyon*, additional, for the *Speedy*, on recommissioning. Surgeon: A. B. Clark to the *Halcyon*, additional, for the *Seagull*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel William Turner is placed on retired pay (dated Feb. 25th, 1914).

Major Samuel H. Withers to be Lieutenant-Colonel, vice W. Turner (dated Feb. 25th, 1914).

The undermentioned to be Lieutenants (on probation) (dated Jan. 30th, 1914):—Lieutenant Treffry Owen Thompson, from the Royal Army Medical Corps Special Reserve; Stanley James Linzell, Lewis Rudall Shore, John Galbraith Gill, John William Cotter Stubbs, Sidney Martin Hattersley, David Wylie Rintoul, and Allan Watson; Lieutenant Norman Veitch Lothian, from the Royal Army Medical Corps Special Reserve; Thomas Francis Pennefather Breen; Lieutenant John FitzGerald Gwynne, from the 3rd West Riding Field Ambulance, Royal Army Medical Corps (Territorial Force); and Arthur John Alexander Menzies.

The undermentioned Lieutenants are seconded under the provisions of Article 343 Royal Warrant for Pay and Promotion, 1913:—Bernard Woodhouse (dated Jan. 1st, 1914); Treffry O. Thompson, Stanley J. Linzell, and Lewis R. Shore (dated Jan. 30th, 1914).

Colonel C. E. Nichol, D.S.O., has been selected for appointment as Assistant Director of Medical Services to the Jubbulpore and Jhansi Brigades, vice Colonel T. J. R. Lucas, retired. Colonel W. W. Pike, D.S.O., has been selected for appointment as Assistant Director of Medical Services to the Abbottabad and Sialkot Brigades, vice Colonel R. Kirkpatrick, C.M.G.

Lieutenant-Colonel C. Cooper Reilly, in charge of the Military Hospital at Calcutta, has been granted six months' general leave of absence home from India. Lieutenant-Colonel W. Turner has been selected for appointment as Deputy Assistant Director of Medical Services to the Welsh Division, vice Lieutenant-Colonel C. A. Young, whose tenure will expire on April 1st. [illegible] has taken over charge of the M[illegible] Lieutenant-Colonel H. J. Fletcher has been granted six months' general leave of absence home from India. Lieutenant-Colonel G. G. Adams has been appointed to officiate as Assistant Director of Medical Services to the Secunderabad Brigade. Lieutenant-Colonel R. Holyoake has been appointed Senior Medical Officer on board the transport s.s. *Plassy*, which left Southampton for Bombay on Feb. 20th.

Major H. E. J. A. Howley, in charge of the Military Hospital at Dinapore Cantonment, has been granted six months' general leave of absence home from India. Major J. T. Johnson has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary) to the Eighth (Lucknow) Division. Major L. L. G. Thorpe has taken up duty in Madras Presidency. Major C. J. O'Gorman, D.S.O., has been appointed to hold charge of the civil medical duties of the Barrackpore Division, vice Lieutenant-Colonel F. J. Morgan, placed under orders to proceed to join the Home Establishment. Major C. E. Pollock has embarked for a tour of duty in the Sierra Leone Protectorate. Major P. S. Lelean, specialist sanitary officer to the North of Thames Area of the Eastern Command, has been selected for appointment as Assistant Professor of Military Hygiene at the Royal Army Medical College, vice Major H. B. Fawcus. Major H. K. Palmer, on arrival home from India, tour expired, has been appointed to the Military Hospital at Cosham. Major H. S. Roch has arrived home on leave of absence from the Military Hospital at Pretoria. Major J. Poe has taken up duty at the Military Hospital at Shorncliffe. Major B. Watts has been appointed to the London District on arrival home from Meerut Cantonment. Major S. de C. O'Grady has been transferred to the Aldershot Command from the Tower of London. Major H. Herrick has been appointed to hold charge of the Military Hospital at Holywood on return home from Naini Tal Cantonment. Major M. MacG. Rattray has been transferred from the Military Hospital at Brighton to Shorncliffe. Major A. D. Waring has taken up duty at Gosport. Major J. Matthews has been appointed to hold charge of the Military Hospital at Sheffield.

Captain W. W. Browne has been appointed Specialist in the Prevention of Disease to the Ahmednagar Brigade and placed in charge of the Bacteriological Research Laboratory at Headquarters, Ahmednagar Cantonment. Captain L. Cotterill has taken up duty in India on transfer from the Aldershot Command. Captain H. St. M. Carter has taken up duty in the Aldershot Command. Captain H. M. J. Perry, specialist in bacteriology to the Devonport District, has been transferred to the London District, and appointed for duty at the Military Hospital, Rochester-row. Captain R. E. Humfrey has relinquished duty at Queenstown, and embarked for a tour of service in India. Captain M. B. H. Ritchie has arrived home for duty from the Military Hospital at Mhow Cantonment. Captain M. J. Cromie has been transferred from Maidstone to the Military Hospital at Chatham. Captain L. G. Gibson has been appointed for duty on board the transport s.s. *Rohilla* leaving Karachi for Southampton on March 19th with tour-expired troops and invalids. Captain A. C. Amy, who has arrived home for duty from the Military Hospital at Agra Cantonment, tour expired, has been appointed to the Western Command. Captain W. Mitchell has been transferred from the Military Hospital at Subathu to Ambala Cantonment. Captain J. R. Foster has been transferred to the Home Establishment from India. Captain F. Casement has been appointed Specialist in Dermatology and Venereal Diseases to the Eighth (Lucknow) Division. Captain M. J. Lochrin has arrived home for duty from Bangalore Cantonment, tour expired. Captain E. B. Lathbury has been transferred from the Military Hospital at Ranikhet to Bareilly Cantonment. Captain F. C. Lambert has embarked for a tour of service in India. Captain E. C. Phelan has taken up duty at Barrackpore. Captain R. G. H. Tate, on arrival home from the Military Hospital at Lahore, has been appointed to the Irish Command. Captain G. F. Dawson has been appointed Specialist in Electrical Science and Radiography to the Seventh (Meerut) Division. Captain C. H. Denyer has been transferred from the Military Hospital at Landoor to Agra Cantonment. Captain T. H. Scott has been appointed to the Northern Command. Captain A. W. Howlett has joined the Aldershot Command. Captain F. J. Stuart has been appointed Specialist in Dermatology and Venereal Diseases to the Seventh (Meerut) Division. Captain R. D. O'Connor has been transferred from the Military Hospital at Murree to Multan Cantonment. Captain E. M. Middleton has been appointed to the Eastern Command. Captain A. Shepperd has been transferred from the Military Hospital at Agra Cantonment to Burma for a tour of duty at Maymyo.

[illegible] has been transferred from the [illegible] to Jullundur Cantonment. [illegible] ve embarked for a tour of [illegible], S. J. Higgins, G. A. Blake, L Dunbar, H. E. Panton, R. Davidson, and A. G. Biggam. Lieutenant W. B. Laird has been appointed to the Military Hospital at Bangalore Cantonment Lieutenant H. J. G. Wells has embarked for a tour of service in India Lieutenant E. C. Deane has been appointed to the Military Hospital at Lucknow Cantonment

An examination for 12 or more commissions in the Royal Army Medical Corps will be [illegible] to compete should be made [illegible] later than nine days before [illegible]

INDIAN MEDICAL SERVICE.

Colonel H. Hendley, Deputy Director of Medical Services [illegible] rmy in India Colonel C J. [illegible] eneral of Civil Hospitals in the [illegible]

Lieutenant Colonel and Brevet Colonel B Seton, Deputy Director General, has been granted leave of absence home from India. Lieutenant Colonel R. H. Elliott has been granted an extension of leave of absence home from India on medical certificate for six months The services of Lieutenant Colonel E Jennings, on his return from leave of absence, have been replaced at the disposal of the Commander-in Chief in India. Lieutenant-Colonel T. E Dyson has been appointed to officiate as Assistant Director of Medical Services to [illegible] Lieutenant Colonel [illegible] has taken up duty [illegible] State. Lieutenant [illegible] appointed Superintendent of the Central Prison at Allahabad, and to hold officiating medical charge of the 121st Regiment of Pioneers

Major J. McPherson has arrived home on leave of absence from India. Major E. E Waters has been appointed to officiate as Civil Surgeon at Howrah during the absence on leave of Lieutenant-Colonel A. H Nott. Major A. E. J. Lister has been appointed Professor of Physiology on the staff of King George's Medical College at Lucknow. Major S. P. James, Assistant Director-General Sanitary Branch, [illegible] home [illegible] ntral [illegible] inted [illegible] India for a total period of two years. Major R. L. Lloyd, professor of biology at the Medical College, Calcutta, has been confirmed in that appointment

Captain S. H. L. Abbott has been appointed to officiate as Superintendent of the Jail at Ferozepore. Captain R. J Bradley has taken over medical charge of the 1st Gurkha Regiment Captain J. W. H. Babington has been transferred from Rawal Pindi to Madras Presidency for temporary duty in the Civil Medical Department Captain G. T. Burke has arrived home on leave of absence from India. Captain J. W. H. Robinson has been temporarily appointed to the Civil Medical Department in Madras Presidency Captain E. S Phipson has been appointed for temporary duty in the Sanitary Department of the Government of Burma. Captain G. McG. Millar has arrived home on leave of absence from India.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Rowland B Campion is confirmed in his rank

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd Highland Field Ambulance, Royal Army Medical Corps: Alastair Robertson Grant to be Lieutenant (dated Jan 28th, 1914).

1st Home Counties Field Ambulance, Royal Army Medical Corps: Charles Killick to be Lieutenant (dated Feb 21st, 1914).

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Captain William F Munro ceases to serve with No 18 Field Ambulance, Royal Army Medical Corps, Special Reserve, and is restored to the establishment (dated Feb 21st, 1914)

2nd South Midland Field Ambulance, *Royal Army Medical* Corps: Major George W. Craig to be Lieutenant-Colonel [illegible] l, Royal Army Medical [illegible] ms to be Captain, whose [illegible] bilisation (dated Jan. 1st, 1914).

1st Western General Hospital, Royal Army Medical Corps: Lieutenant-Colonel Nathan Raw, whose retirement was announced in the *London Gazette* of August 19th, 1913, is granted permission to retain his rank and to wear the prescribed uniform.

Attached to Units [illegible] John Goss resigns h [illegible]

Supernumerary for [illegible] Lieutenant Andrew [illegible] University Contingent, Senior Division, Officers Training Corps) resigns his commission (dated Jan 29th, 1914).

DEATHS IN THE SERVICES.

Fleet Surgeon Alfred Hutton Jeremy, R.N., of the *Impregnable*, recently in London He entered the Navy in 1893, and was promoted to the rank of staff surgeon in 1901. He was staff surgeon of the *Fox* during the Hodeida and Henjam incidents, 1905 and 1906

MEDICAL INSPECTION OF SCHOOL CHILDREN.—In reply to a recent deputation from the Parliamentary committee of the last Trade Union Congress, the President of the Board of Education declared that he had made every effort to obtain an adequate grant from the State for the medical inspection of school children His department was bringing pressure to bear upon local authorities in order to secure that every child was inspected medically at least thrice during the school period, and that where necessary inspection was followed by treatment.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—This society held its annual dinner at Hotel Great Central on Feb 19th The chair was occupied by Dr F. S Palmer, who was supported, besides those whose names occur below, by Sir David Ferrier, Dr. Phineas Abraham, and Professor T. B Hyslop. Mr. Bishop Harman, in proposing the toast of "The Imperial Forces," paid a cordial tribute to the work done by the forces in South Africa, and gave many interesting details of what he had himself observed there Sir James Porter, responding for the Navy, deprecated the pessimism of old gentlemen who wandered about clubland complaining that the service was going to the dogs Colonel Edmund M. Wilson, replying for the military forces, urged the popularisation of the army, the inculcation of the idea that it was not only an obligation but an honour for every able-bodied man to render some service to his country. The medical profession, he said, could do this, for it had led the way the medical part of the Territorial service was full and up to date The President, in proposing "The Society," said that it owed its origin largely to the late Mr. C. B Keetley, of whom he spoke feelingly. Of the 145 original members of the West London Medico-Chirurgical Society 29 were still living and several were present. There were now 575 members, and their meetings showed an average attendance of 42 He expressed their pleasure at having the coming Cavendish lecturer with them. Colonel T H Hendley, in reply, spoke of the extent to which service men joined the society and availed themselves of the opportunities afforded them by the West London Hospital. The event of the evening was the presentation by the President to Professor Arthur Keith of the society's triennial gold medal, which had been established by Dr Phineas Abraham He spoke of Professor Keith's career, scientific achievements, and modesty, and then presented the medal in recognition of Professor Keith's valuable services to science and to the profession of medicine Professor Keith, in responding, modestly deprecated any special claim to the honour. It was his great good fortune to be called first not to a university but to a large medical school—the London Hospital—where he learnt to realise the danger of anatomy and medicine turning their backs upon one another. It had been his endeavour to make [illegible] the Royal Society of Medicine, and Dr F. W. Mott, their Cavendish lecturer for 1914. Sir Francis Champneys, in replying, spoke of the satisfactory progress of the Royal Society of Medicine, and Dr. Mott caused great amusement by referring to Professor Keith's struggles over the Piltdown skull, and reminding his hearers of what happened, according to Bret Harte, in an [illegible] toric remains The proceedi [illegible], of "The Chairman," propose [illegible]

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(By our Special Commissioner.)

(Continued from p. 568.)

XXXVIII.—London: The Persistence of Dislike to the Act.

We have seen that at first the London medical men who would not go on the panel were for the most part isolated, unorganised, helpless. What with the divided attitude of the British Medical Association and the admittance of panel doctors into the National Medical Guild, this feeling of hopelessness was somewhat intensified. In the provinces there was a better show of organisation in those places where any effective opposition was taking place, and we have seen that in Edinburgh the Scottish Medical Guild was emphatically opposed to the contract system and to the Act.

The National Medical Union.

The opinion grew stronger and stronger that for the purpose of organisation the members of an association must be all of the same opinion. Even if it be a trade union, all the members must be either for or against the panel.

All this led up to the formation of an association, which was ultimately called the National Medical Union. The first object was to group together the small local London societies and then federate them with all similar bodies existing in other parts of the kingdom. This was finally achieved at a representative meeting held at the Waldorf Hotel on Nov. 31st, 1913. The national character of the new organisation was illustrated by the fact that Professor William Russell, of Edinburgh, and Mr. G. A. Wright, of Manchester, were elected presidents, and Dr. John Playfair, president of the Edinburgh Medical Guild, was elected vice-president. For secretaries Dr. R. Carswell, of Wandsworth, and Mr. E. Arthur Dorrell, secretary of the London Medical Committee, were chosen.

The various organisations within the National Medical Union retain their individuality but are federated together under a common board of management. To this central or national body each member must pay a guinea per annum, and he further subscribes to his local group whatever may be needed, though this does not often amount to more than 5*s*. a year. A preliminary official statement of the objects and policy of the union has been issued and already published; but for the sake of sequence it may be useful to repeat it here. The object of the National Medical Union is:—

1. To maintain the freedom of the medical profession in its professional and personal relations with the public.
2. To support the public in maintaining a corresponding freedom, and to safeguard the national health.
3. To oppose the present arrangements for medical benefits under the National Insurance Acts, and to decline professional service under such arrangements.
4. To preserve an independent attitude with regard to party politics.

Such, briefly and officially, is the policy of the National Medical Union, and it has been growing in strength ever since its foundation. At first it had about 1000 members in the metropolitan area, including both general practitioners and consultants. To-day the membership has increased considerably, defections having taken place both from the National Medical Guild and the British Medical Association. Permanent offices have been taken at the *Morning Post* buildings, 346, Strand.

It is felt that, being organised, the non-panel associations will be able to make themselves heard when the time for a change in the working of the Act is at hand.

Future Developments.

It may seem strange that there should have been so many associations formed in about 12 months. The experienced organiser or student of public movements will be little surprised. A mass of persons taken as a whole, like, for instance, the medical profession, cannot be simultaneously moved by one single set of rules and principles. No one really knows what programme will prove acceptable to a working majority till some practical test has been applied. Then there are always two sorts of approval: the tacit approval and the assent that will be backed by action followed even by self-sacrifice. The former is only of service when there is no difficulty or serious opposition. Therefore, when a movement commences many committees and many organisations are started, rules proposed, and programmes prepared. Then ensues a struggle for existence resulting in the survival, not perhaps of the best, but of that which fits best the imperfections of the people for whom it is intended. Many alterations take place before experience shows what is most practical.

We have seen that when in the midst of the London Medical Committee the idea germinated that the best road to effective action would be the formation of a real trade union the National Medical Guild came into existence. But quite early in the life of the guild it was found necessary to admit practitioners who were working upon panels under the Act, for otherwise the guild could not be considered to represent the entire profession, which for a trade union would be ridiculous; and then the secretary of the guild himself went on a panel, I am informed. The end and aim of a trade union is to defend the trade interests of its members, and its business is to support or combat any particular Act of Parliament according to the manner those trade interests are affected. In this case the interests are professional and not trade interests, but the methods of attack and defence would be identically the same. When, however, both supporting and opposed to the formation of panels were represented on the guild, the possibility of united action was lost. I cannot see in a trade union the chances of united strength that are necessary.

Victims of Resistance.

Many stories are told of the suffering, the poverty voluntarily endured, rather than submission to what it was imagined would degrade the profession. Thus I heard, in the south-west of London, of a Scotsman, born and bred in the best traditions of the profession, who looked upon his work as a sacred ministry; when asked if he was going on the panel he was amazed beyond measure, exclaiming, "Man, it would be impossible to go on the panel." He felt that the profession had been "kicked on to the panel." If it was a case of "go on or starve," with great dignity he declared his readiness to starve. Many medical men thought they were rightly or wrongly forced into a contract which they had had but very little to say in preparing. They felt they were being ignominiously forced on the panel, and to go on the panel was to give way to compulsion. At Paddington an old-established practitioner, 60 years of age, declared that he could not do panel work. It might suit younger men, he said, but he would not undertake it. "A squatter," as he was resentfully described to me, came with an assistant and took a house immediately opposite. In a short time the servants, the shop assistants, and other insured persons went to the new-comer, who was on the panel. The old-established practitioner found his income so reduced that he had to dismiss his servants, rely on his daughters for the domestic work, and take a much smaller house. In Wandsworth there was a case of a practitioner whose patients were nearly all insured persons. But he had signed the pledge not to serve on the panel, so he refused to profit by a rich harvest, and nearly all his patients were taken from him. His loss was so heavy that it was proposed to raise a local fund, but he refused any such assistance. He declared that he had acted on principle, and was prepared to pay the cost. This story ended in tragedy. He had an attack of influenza, which should have been treated by rest, but he did not dare neglect the few patients he had remaining. Therefore he worked through his illness till he reached a point of exhaustion that was so severe that he died. This is a true story. The case will be recognised by many of my readers, and proves beyond all fear of contradiction the genuine dislike of the Act displayed by some medical men and still felt by them.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

The University of Liverpool.

THE council at their last meeting appointed Dr. Warrington Yorke to the Walter Myers chair of parasitology, the chair established by the Liverpool School of Tropical Medicine in memory of Dr. Walter Myers, a former member of the staff, who lost his life on one of the expeditions organised by the school. Dr. Yorke is a Liverpool student, and had a distinguished scholastic career. During the last eight years he has been engaged in research in tropical medicine, and has served on an expedition to Nyasaland studying blackwater fever. Since the year 1909 he has served as director of the Runcorn Research Laboratory. At the same meeting Dr. W. Permewan was appointed to the lectureship in laryngology in succession to Dr. J. Middlemas Hunt. For some years Dr. Permewan has been in charge of the Department of Laryngology at the Royal Southern Hospital.

Royal Southern Hospital.

At the annual meeting of the trustees and subscribers of the Royal Southern Hospital, which was recently held with the Lord Mayor, Mr. H. R. Rathbone, in the chair, the annual report recorded a good year's work, 2957 in-patients receiving treatment, as against 2740 in the previous year. As regards out-patients, the effect of the National Insurance Act had been to reduce somewhat the attendances of trivial cases, for these had been referred, after the first treatment, to panel doctors. Notwithstanding heavy reductions in the income from annual subscriptions, donations, and the Hospital Saturday and Sunday Fund contributions, which, taken collectively, showed a diminution of £592 18*s.*, it was recorded with satisfaction that the ordinary income was in excess of the previous year by £158 17*s.* Against this small increase of income, however, there was a rise in the ordinary expenditure of £564 10*s.* This ever-increasing working deficit is causing the committee much alarm, and if the work and efficiency of the hospital are to be maintained it will be necessary for the public, especially the working classes who receive its benefits, to realise that this can only be done by increased support. The debt due to the bankers, it appeared from the report, had been increased during the year by £2249 6*s.* 5*d.* and on Dec. 31st last the sum owing was £6967 1*s.* 1*d.* The Lord Mayor, in moving the adoption of the report and accounts, referred to the very serious position in which that charity and others of a similar character in this city were placed at the present time. In almost every instance expenditure had gone up very seriously, and in nearly every case the income had been diminished. It showed that the support of the general public was not at all commensurate with the increased liabilities and increased demands for assistance from these charitable institutions. He was struck on examining the lists of subscribers to these institutions to find that the same names appeared again and again. They were composed of a comparatively small number of people, and he did not think it would be reasonable to expect these generous subscribers to increase the amount of their contributions. How were others to be approached? He would be willing to assist the medical charities of Liverpool by making a collective appeal to those who did not at present figure in the lists; but he thought it would be advisable to follow the matter up with personal applications. For this purpose he thought it would be well to have a subcommittee of each trade, profession, or business in the city who would know the men to whom they could apply with reasonable hope of success. He could not think that those who had not given had done so from a deliberate hard-heartedness or selfishness. If they were definitely asked to assist those who were in distress and suffering from sickness and unable to provide the medical relief they required for themselves, they would be willing probably to give every year a sum which, if it were given by every member of the community, would put the hospitals in a very different position from that which they had at present to report each year. He was having prepared a report of those who at present subscribed, and when he had it ready he would be able to indicate where the gap lay. Mr. Thomas Woodsend, the president of the hospital, seconded the adoption of the report, and thanked the Lord Mayor for his suggestions.

Foot and Mouth Disease.

During the last ten days an outbreak of foot and mouth disease has occurred in the lairage at Birkenhead, bringing business to a standstill at the Birkenhead and Wallasey lairages. On Feb. 23rd animals were discovered suffering from the disease in a shippon in Liverpool. Only two animals were affected, but all the animals at the infected shippon —32 in number—were ordered to be at once destroyed.

Feb. 24th.

MANCHESTER.

Noisy Schools and Physique of School Children.

THE Manchester and Salford District Education Association at its recent meeting in Manchester discussed some important directions in which school life in Manchester might be improved. One speaker pointed out the noisiness of Manchester streets generally, and suggested that around all buildings of a public character, such as churches, libraries, hospitals, and schools, silent pavements should be laid. In one district in Moss Side it appears that between 9 and 10 A.M. 120 cars go rattling and clanging past one school, in addition to miscellaneous traffic. While casement windows lessen the noise, they obstruct light, hinder ventilation, and make the school unhealthy. Of the 123,000 scholars in Manchester Mr. J. M. MacLachlan said that fully one-half were in a defective bodily state through one cause or another. In 1912 there were 1300 cases of anæmia, 600 of rickets, 6500 of malnutrition—i.e., 1 in every 20 children, 2600 cases of defective sight or external diseases of the eye, 560 of ear disease, 693 of defective hearing, many thousand cases of skin disease keeping the children from school, and 4800 cases of enlarged tonsils, adenoids, or glands. There were 6000 children with six or more carious teeth. A resolution was passed urging the city council to replace setts paving by wooden blocks or some other approved form of silent pavement alongside school buildings, beginning at once in respect of 16 schools in the noisiest parts of the city.

Tuberculosis Scheme for the County of Cheshire.

The Cheshire county council have approved the Public Health Committee's scheme for a systematic treatment of tuberculosis throughout the county area. The council undertakes to give sanatorium benefit to all insured persons on condition that it receives annually from the County Insurance Committee 7½*d.* of every 9*d.* available to them for such benefit, and that the Treasury contributes one-half of the net sum required. The scheme will cost a capital expenditure of £20,360 and an annual expenditure of £11,000. The county council, so far as the accommodation will permit, agree to provide sanatorium benefit on certain conditions for persons who are not under the Act. The county will be divided into four dispensary districts for the treatment and supervision of cases. At Chester there will be a central dispensary and four subdispensaries. Crewe will have two subdispensaries and the other two centres at Hyde and Northwich will also have two subdispensaries each. A tuberculosis officer will be appointed for each district to work under the county tuberculosis officer and in coöperation with the various other agencies of the public health service.

Burnley Hospital Extension.

Two years ago it was determined to raise £30,000 for a much-needed extension of the Burnley Victoria Hospital. It is announced that £30,200 have been promised or paid over to the institution. The extension will commemorate the jubilee of the borough's incorporation and the Coronation of King George.

Medical Tickets in Salford.

At the end of January about 92,000 new medical cards were sent out, and about 14,000 of these have been returned through the dead letter office. These people were nearly all members of Approved Societies.

Radium Fund for Manchester.

The subscriptions to this fund have now reached nearly £4000. A general committee has been appointed to secure a supply of radium for medical use in "Manchester and neighbourhood," with subcommittees, including a technical and scientific subcommittee, to report to the general committee on the subject of radium. It was agreed that there should be but one fund and one public appeal in the matter.

The Effect of the Insurance Act on Hospital Attendance.

At the yearly meeting of the governors of Ancoats Hospital it was stated that during the year there had been a large reduction in the number of minor ailments and accidents treated at the hospital. It is assumed that these infirmities are now being treated by the Insurance Act doctors. The number of in-patients during the year showed a very considerable increase, and the average type was of a more serious character. As to accidents, 504 of these cases were of such a serious nature as to call for immediate admission to the wards. During 1913 2115 in-patients and 8873 out-patients were treated. The number of accident patients totalled 21,898. The annual expenditure was about £10,000.

Feb. 24th.

BRISTOL.

University of Bristol: Colston Society Dinner.

THIS annual function was marked by some very interesting speeches. Both the guests of the evening, Principal E. H. Griffiths, of University College, Cardiff, and Professor H. H. Turner, of Oxford, spoke in warmly commendatory terms of the spirit of research which has made itself felt in Bristol. The Lord Mayor of Bristol also spoke of the beneficent effects of the scholarships which gave a chance of university education to those who were capable of profiting by it, and who would have lost that chance had it not been for financial help. The treasurer, Mr. Arrowsmith-Brown, reported that the year's collection amounted to £492, a sum which would be handed over to the Colston research fund of the University.

Bristol Hospitals and Subscriptions from Working Men.

Some interest has been aroused in hospital circles in Bristol by the movement set on foot by some of the local labour leaders to gain representation for working men on the governing bodies of the hospitals. It is argued, and with considerable reasonableness, that since they subscribe largely to the funds of these institutions the working men should be directly represented on the management committees. The labour leaders stated, at meetings held during the past month or two, that requests to this effect had been ignored or refused by the hospital authorities, and they had determined to carry by storm the position refused to them by more peaceable means. Their plan is to "pool" the working men's contributions (so far as they could secure them) and to allot to nominees the sums equivalent to a governor's subscription. The first engagement in this campaign occurred last week at the annual meeting of the Royal Infirmary. The labour representatives attended in force; their first speaker, Alderman Sheppard, used the moderation in argument for which he is notable, and asked for a consideration of the plans whereby the hospitals of other cities, Newcastle-on-Tyne and Leicester, had secured the confidence and support of the working men. Unfortunately his colleagues were less reasonable, and made vague insinuations against the treatment of patients which they were unable to substantiate. In his reply the president, Sir George White, repudiated these insinuations and passed over the other arguments brought forward. There is no evidence to show that these extremists represent the Bristol working man's attitude towards hospitals; nevertheless, it is probable that a good deal of misunderstanding between the institutions and their patients might be cleared up if the class from which the latter are mainly drawn were represented on the governing bodies of the former.

Bristol Royal Infirmary.

The conflict with the Labour representatives did not monopolise the interest of the infirmary annual meeting. The in-patients in 1913 numbered 5394, as against 5049 in the previous year (totals which include transfers from the preceding year in each case); this addition is explained entirely by the increased accommodation provided by the recent renovations. Out-patients fell from 58,923 to 42,051, an effect of the National Insurance Act. The total ordinary expenditure was £20,228, and the income £12,783. To this deficit has to be added that of £4857 carried over from last year. Moreover, in order to pay for the new buildings, erected at a cost of £137,000, invested capital to the extent of £83,448 has been spent. The committee claim that this step is justified by its results, and that the increased efficiency of the buildings thus procured would have gratified the pious donors of the endowments just sold. In accordance with this belief every investment to which no specific trust is attached has been sold.

Bristol General Hospital.

After 40 years' service, the secretary, Mr. William Thwaites, is retiring from his post to enjoy a well-earned rest. During this long term of office he has made many friends at the hospital, and the familiar presence will be very greatly missed. He is to be succeeded by Mr. T. W. Gregg, who was till now secretary to the Belgrave Hospital for Children. He has had considerable experience of institutional work. The new pathological department has been at work for some weeks, and constitutes a very important addition, not only to the hospital but also to the pathological resources of the West of England. It consists of a large laboratory admirably lit by windows extending the whole length of the bench wall and capable of accommodating at least six workers with ease, and a small private laboratory for the pathologist, Mr. George Scott Williamson, who has developed this department of the hospital in a remarkable way. These extensions set free the old laboratory for the use of students and at the same time provide space for original work.

Feb. 24th.

SCOTLAND.

University of Edinburgh: Honour for Professor Ehrlich.

THE Senatus Academicus of the University of Edinburgh have awarded the Cameron Prize in Therapeutics, which is given for "highly important and valuable additions to practical therapeutics," to Professor Paul Ehrlich, director of the Royal Institution for Experimental Therapeutics, Frankfort, in recognition of his discovery of salvarsan, of his researches on numerous synthetic organic compounds of arsenic, and of his important work on immunity.

Foundation of an Anæsthetists Society for Scotland.

A dinner was held on Feb. 20th at the Balmoral Hotel, Edinburgh, attended by anæsthetists from Edinburgh, Glasgow, Aberdeen, and Dundee, Dr. D. C. A. McAllum, of Edinburgh, in the chair. Edinburgh was further represented by Drs. Gibbs, Torrance Thomson, Jones, and Ross; Glasgow by Drs. Paton Boyd, Lamb, Napier, and Fairlie; Aberdeen by Dr. Johnston; and Dundee by Dr. Mills. Apologies were read from Dr. R. Home Henderson, of Glasgow, and Drs. Ogston and Robertson, of Aberdeen. At a business meeting held after the dinner it was resolved to form a society to be known as the Scottish Society of Anæsthetists, the objects of which should be "to further the study of the science and practice of anæsthetics, and the proper teaching thereof." It was resolved to limit the membership of the society to those practising the specialty of anæsthetics, but that other members of the profession interested in the subject should be invited as guests to the meeting to take part in the reading and discussion of papers. Office-bearers were appointed as follows: President, Dr. D. C. A. McAllum; Vice-President, Dr. J. Paton Boyd; and Secretary-Treasurer, Dr. J. Stuart Ross. Drs. Torrance Thomson, Lamb, Mills, and Johnston represent Edinburgh, Glasgow, Dundee, and Aberdeen respectively on the executive. It is intended to hold two meetings yearly in April and October, taking each of the four cities in rotation.

Royal Navy Medical Service: Address to Edinburgh Medical Students.

Surgeon-General A. W. May, Director-General of the Medical Department, Royal Navy, lately delivered an address to medical students in the New University Buildings, Edinburgh. Principal Sir William Turner, who presided, said that they wished to give a word of welcome to a very distinguished professional brother. Perhaps there was a stronger feeling amongst Scottish medical graduates towards the land services rather than the sea service. But they must keep this in mind, that Scotland was now about to become one of the greatest resorts for the Navy, and therefore the Navy would come home to them much more closely than it had done, and this was an appropriate time for the Director-General of the Medical Department of the Navy to come amongst them and tell them something about the Navy as a service. Surgeon-General May said that he had come to try to persuade some, at any rate, of the young men to join the Navy Medical Service. They were short of men in the Royal Navy at the present time. Giving the reasons for that shortage, he said that one was the fact that the medical service was judged greatly by the conditions which existed 35 years ago, and that it was judged unfavourably because at that time the service was not efficient. If, he said, they had an efficient service they would have a popular service, and he was glad to say that at present there existed no finer body of working medical men, especially in the younger branches of the service. The organisation and equipment of the hospitals were as fine as any in the world. The men they wanted were first-rate men, hard workers, and if they got those men they would be able to reward them as their work and their merits deserved. On the motion of Professor Harvey Littlejohn, the

Dean, a cordial vote of thanks was awarded to Surgeon-General May.

Dispute with Reference to the National Insurance Act.

A dispute has arisen between the miners of the Morningside district of Wishaw and the local doctors with regard to the payment of medical fees. Up till now the charge has been 2½*d.* per week, the money being deducted from the men's wages, but on the instruction of the county union the miners have decided to pay a contribution of only 2*d.* per week, and in consequence the medical men have intimated refusal to give attendance. The doctors are of opinion that the union has broken faith with them, the understanding being that country doctors were entitled to ½*d.* more per man than the remuneration given to town doctors. The dispute is a test one, as it is recognised that the outcome will affect the whole of Lanarkshire.

The Purification of the Clyde.

A deputation from the corporation of Glasgow and representatives of the county councils of Lanark and Renfrew, and the town councils of Rutherglen and Clydebank were received by the Secretary for Scotland last week to make representations on the question of the pollution of the River Clyde by sewage from the burghs of Paisley and Renfrew. The deputation urged that the corporation of Glasgow had already spent £2,500,000 on purification works, not to mention the sums spent by the two councils. It was also recalled that the burghs of Coatbridge and Airdie were, at the instance of the county council of Lanark, compelled by law to construct purification works. Hitherto Paisley town council have even refused to appoint a committee for the purpose of meeting with the Glasgow authority.

Glasgow Royal Infirmary.

During last year the patients admitted to the Glasgow Royal Infirmary were 9661, as compared with 8787 in 1912. The rate of mortality was 9·6 per cent., as against 10·17 per cent. the previous year. The daily average residing in the institution was 656·8. The total general attendances at the outdoor department were 128,637, as against 183,661 in the previous year, the decrease being probably due to the operation of the National Insurance Act. The total ordinary revenue was £28,427 and the total ordinary expenditure £53,548, leaving a deficiency of £25,121.

Feb. 23rd.

IRELAND.

The Dublin Housing Report.

THE report on the housing conditions of the working classes of the city of Dublin has given rise not unnaturally to much discussion and newspaper comment. The corporation, as was inevitable, has come in for severe censure. In a letter to the daily papers of last Saturday Sir Charles Cameron, medical superintendent officer of health, attempts to reply to some of the charges levelled at his department and at the civic management generally. He begins by charging the chairman of the committee of inquiry with bias, and with a desire to ignore all evidence in favour of the sanitary administration of the city. He goes on to show that in the last 35 years there has been a considerable reduction in the death-rate of Dublin. This, of course, is not denied, but nevertheless the death-rate is still the highest in the kingdom or, indeed, in Western Europe. With regard to the specific charges made in the report in reference to non-enforcement of the by-laws and improper granting of rebate of taxes Sir Charles Cameron's defence appears to fail.

Payment for the Certification Panels.

Much discontent has been naturally caused by the unexplained delay in making payment to the medical men who went on the certification panels at the invitation of the Insurance Commissioners last spring. Under the terms of the agreement accounts were to be settled quarterly, but more than ten months have elapsed without any payment being made. A recent communication to the County Cork Insurance Committee from the Insurance Commissioners is not likely to allay the anxiety of those to whom payments are due. Medical men going on the certification panel were assured that all insured persons who failed to choose a doctor would be allotted without delay, and they accepted appointment on the understanding that the entire money accruing to each area would be divided *pro rata* among the medical men on the panel for that area. County Cork was one of the areas in which the panel was declared by the Commissioners to be "completed." Nevertheless they have now declared that there were in that county several districts in which no facilities for certification were available for insured persons, and they refuse to make any payment in respect of insured persons in such areas. The point is in essence the same as that which has arisen in the county of London with regard to unallotted insured persons. The Irish Commissioners appear, however, to be bound by the terms of the agreement to make full payment. Medical men in other panel counties will wait with interest to know whether the Commissioners intend to attempt similar deductions in these areas.

Forster Green Hospital, Belfast.

Dr. F. Coates has been appointed honorary attending physician to the Forster Green Hospital, in place of Dr. J. E. MacIlwaine (resigned), and Mr. W. McCready, laryngeal surgeon, in room of the late Dr. C. Shaw.

Infantile Paralysis in Fermanagh.

As a result of the outbreak of poliomyelitis at the Irvinestown district of County Fermanagh two deaths have occurred. The Local Government Board has sent down one of its medical inspectors to make inquiries, and unfortunately a good deal of panic has arisen among the inhabitants, and in numbers of cases children are being sent out of the district. As to how the disease is spread, we are completely ignorant.

Feb. 24th.

PARIS.

The Reform of Medical Education.

THE Conseil Supérieur de l'Instruction Publique at its last meeting dealt with two questions touching medical education. The first was the situation of *professeurs agrégés* of the Faculty. These are nominated at the *concours*—under conditions which periodically give rise to lively protests—for a period of nine years, during which they take a course and undergo examinations. For teaching they are grouped in sections as specialists. For a long time the *agrégés* have complained of the temporary character of their position, and have even demanded that their appointment should have the same duration as that of the professors, being prolonged to the ordinary age limit—viz., 70 years. The Conseil Supérieur has not acceded to this plan, but has agreed that at the termination of the appointment this extension should be accorded as a grace to the *agrégé* on a vote of the Council of the Faculty and the Consultative Committee of Public Instruction. These *agrégés* will receive the title of *professeur adjoint*, but the number of such professors in each faculty must not exceed one-sixth of the number of titular chairs. Moreover, if necessary, *agrégés* whose term came to an end before November, 1913, may be recalled to service for a term of one to three years. The second part of the decree deals with the organisation in the faculties of the complementary and post-graduate instruction. This instruction concerns especially (1) candidates for teaching posts or for public offices requiring medical knowledge; (2) students who desire to extend their studies after taking their degree, or to specialise; (3) students in their final term and medical men who desire to improve their acquaintance with the laws affecting medicine and the study of the difficulties that the practice of medicine raises; (4) medical men desirous of keeping themselves in touch with recent methods and discoveries; (5) foreigners who come to France to complete their instruction; (6) travellers who wish to pursue their personal researches in the laboratories or cliniques. Each faculty of medicine, after consultation with the council of the university and with the consent of the Minister, will create and organise its complementary and post-graduate courses according to the resources at its disposal and the particular needs of each of them.

The Return to Type.

A recent report by Dr. J. Laumonier to the Société Française d'Eugénique is of present interest, since nowadays nearly all the great nations receive a certain proportion of foreign immigrants, who by marrying natives give origin to half-breeds. Now, it is well known that half-breeds are not a stable type and that their descendants after a few generations revert to the type of one or other of their original progenitors. Dr. Laumonier claims to have shown that the greater persistence occurs in the type longest settled in the land. It would thus seem that a foreign population, introduced and fixed by marriage, loses its ethnic personality in succeeding generations, and that it is the indigenous type which finally persists.

The Serum Diagnosis of Tuberculosis.

M. Debains and M. Jupille would appear to have made a great advance in a recent communication to the Société de Biologie. They showed that Besredka's tuberculin, which is obtained by cultivating Koch's bacillus in egg bouillon, forms alexins in the presence of tuberculous serum from whatever form of clinical tuberculosis. This reaction is very sensitive, and is always specific, save in certain truly exceptional circumstances. It takes place with lesions that are developing. Its value is greater than that of the cutaneous reaction in that it gives an affirmative diagnosis, even when the clinical signs of tuberculosis are doubtful or altogether absent. It is absent only in those tuberculous patients who are severely afflicted and at the point of death, and in those who are already on the road to cure. It is superior to the ophthalmo-reaction in that its application entails no risk.

The Traffic in Habit-forming Drugs.

Severe sentences, varying from 200 to 2000 francs penalty (with 300 francs damages in one case) and one month in prison, have recently been passed in France upon five pharmacists for selling morphia and other habit-forming drugs. Of five wholesale druggists also inculpated two were mulcted in damages. The judge's charge, which was in very severe terms, pointed out that stringent measures are now demanded, since drug addiction is no longer confined to neurotics and rich degenerates whose extinction would be no loss to the community, but is extending also among workers and university students.

Feb. 23rd.

BERLIN.

The Berlin Invalidity Insurance Institution.

THE annual report of the Invalidity Insurance Institution — Landes - Versicherungs - Anstalt — for the city of Berlin states that since compulsory insurance has been extended so as to include orphans and widows the number of persons connected with the institution is about 1¼ millions. It must be remarked that the above institution is concerned only with the city of Berlin proper, having about 2½ millions of inhabitants, and not with the suburbs, which have an additional population of 2 millions belonging to the insurance institution of the province of Brandenburg. The income of the institution derived from the compulsory contributions of employers and working people was about 15 million marks in the year 1912; whilst the property of the institution was about 100 million marks. Of this sum about 36 million marks are invested in mortgages on asylums, sanatoriums, hospitals, homes for invalids, hygienic dwellings, &c.; about 20 million marks represent the value of the hospitals and sanatoriums belonging to the institution. The disbursements included sick pay to 49,621 men and 27,052 women, and old age pensions to 6548 men and 1611 women. Tuberculosis was the cause of invalidity in 19·1 per cent. of the men and in 14·4 per cent. of the women. The prophylaxis of tuberculosis is one of the most prominent works of the institution. In the sanatorium at Belitz 18,724 tuberculous patients were attended during the period 1908–12, at an expense of 10 million marks. Apart from the sanatorium for tuberculosis there is also in Belitz another one reserved for the treatment of other internal diseases, and in it 13,737 patients were treated, at an expense of 4·5 million marks. The united sanatoriums of Belitz are the largest in existence, the number of beds being about 1800. The institution also possesses in Lichtenberg, a suburb of Berlin, a receiving house in which doubtful cases are first examined until it can be decided if they are to be taken to Belitz. A day sanatorium is also combined with this house. Throughout the city there are numerous dispensaries, the nurses of which made 23,958 visits to tuberculous families, and the result of these visits was that in 225 cases more rooms were hired at the expense of the institution. In 915 cases the dwellings were disinfected. The institution has also an extensive dental department, where nearly 7000 patients were treated in 1913.

Proposed Neutrality of Watering-places and Health Resorts in Time of War.

Professor Kisch, of Marienbad, has published a proposal that watering-places and health resorts should be used for the accommodation of sick and wounded soldiers in the event of war. He said that in time of war these places were completely abandoned by civilian patients, and that owing to their hygienic arrangements and the great number of beds provided in them the residential buildings might be regarded as large and well-equipped hospitals. For that purpose, however, it would become necessary to modify the Geneva Convention so that the health resorts and watering-places should be declared neutral and placed under the Red Cross just as hospitals are. In this way the possibility of street fighting would be avoided. Professor Kisch suggests that the Red Cross societies might take the necessary steps for approaching their respective Governments in support of his proposal.

The Climate of the African Desert.

An expedition for the study of the climate of the desert and its influence on the human subject will be sent to Egypt on behalf of the Physiological Institute of the University of Berlin. The expedition will start in the beginning of March, proceeding first to Helouan and then to Assuan. Investigations will be made on the metabolism of water and of nitrogen, on the respiration, the blood, and the nervous system. The expenses will be covered partly by the Government and partly by a legacy left by the late Countess Bose to the University of Berlin for scientific research.

Socialist Medical Men in Berlin.

Medical men belonging to the Socialist party have lately formed a society under the presidency of Dr. Zadek, a member of the Berlin municipal council. It has been suggested in the press that the new society might possibly in the future take up a position of antagonism to the bulk of the profession when strikes were in progress, and might help the sick clubs (of which very many are under the control of the Social Democratic party) in their struggle against the profession. The members of the new society have, however, declared that they are far from thinking of doing this, but that they will advise the Socialist party in medical matters better than has hitherto been the case; they hope to be able by their work to contribute to the establishment of better relations between the clubs and the profession. The society has already about 100 members. This is the first instance in this country of an organisation of medical men according to political principles.

Feb. 23rd.

CANADA.

Handsome Donation to National Sanatarium Association.

Mr. W. J. Gage, of Toronto, has recently given a further contribution of $100,000 for the prevention of tuberculosis throughout Canada, bringing his total gifts to a quarter of a million dollars. The amount will be employed in providing for needy patients in the Muskoka institutions. Mr. Gage is practically the founder of the sanatorium movement in Canada, and it is through his efforts that sanatoriums have sprung up in almost every section of Canada. Since the National Sanatarium Association was founded it has taken care, practically free of cost to themselves, of over 7000 patients in its various institutions, and there are now in the Muskoka and Weston and Humber institutions about 470 patients. The plant and equipment of all these hospitals is valued at $500,000.

Toronto School Children.

A report regarding mental defectives in the publi schools of Toronto states that between 250 and 3 pupils are mentally defective. The Minister Education has not yet exercised the powers con ferred upon him in 1911 by the Act of the Ontari Legislature authorising the establishment of speci classes. There are also said to be 45,000 schoo children with decayed teeth, and between 20,00 and 25,000 with septic mouths. It is proposed t establish six additional dental chairs.

Typhoid Fever in Toronto.

Fifty deaths occurred from typhoid fever i Toronto in 1913, as against 150 in 1911. In 24 o the 50 the disease had been contracted outside th city. Altogether the typhoid death-rate was 11 pe 100,000 population; but as only 26 deaths can pro perly be attributed to conditions in the city, th rate would be 5·8. There are only four cities o over 350,000 in North America with a better recor —viz., Cleveland, 6·3; Cincinnati, 7·3; St. Louis 10·2; New York, 10·4.

Typhoid Fever in Ottawa.

For the past 15 years Ottawa has had a great dea of typhoid fever. From 1901 to 1910 there were about 200 deaths from this cause. Within 1 months in 1911 and 1912 two epidemics occurred with 165 deaths. The New York expert, Mr. Allan Hazen, has recommended, amongst other things, the hypochlorite treatment of the water-supply. In March, 1911, the Canadian Conservation Commission with the Ontario Board of Health and the cooperation of other sanitarians investigated the causes o typhoid fever in the capital, and agreed that the Ottawa water-supply was polluted chiefly from the south shore of the river. After the epidemic of 1912 Mr. Hazen prepared a complete scheme of a water plant for Ottawa, which was endorsed by the Ontario Board of Health and accepted by the corporation of Ottawa, subject to ratification by the citizens. But at the municipal elections in Ottawa on Jan. 1st, 1913, the ratepayers rejected Mr. Hazen's scheme. On Jan. 7th Mr. Justice Lennox quashed a by-law passed by the Ottawa city council providing for the expenditure of $13,000,000 on a new waterworks system. He declared it illegal and improper, the sole ground upon which it had been passed being a *fiat* by the chief officer of health for Ontario. He had acted doubtless in the public interest, but had exceeded the powers conferred on him by the Ontario Legislature. There was no doubt as to the absolute necessity for a pure water-supply for Ottawa; it was all a question of procedure. If the citizens refused the appeal of the city council the right procedure was through the Ontario Legislature. On Jan. 1st, 1914, the ratepayers again rejected the scheme. An epidemic in Ottawa cannot be altogether a local matter, but would be of national and international concern, Ottawa being Canada's seat of government, so that the situation is serious.

Meat Extracts in Canada.

Bulletin No. 267 of the Laboratory of the Canadian Inland Revenue Department reports on 80 samples of meat extracts purchased throughout Canada. The Canadian standard requires 50 per cent. of solids in fluid meat extracts. Of the 80 samples analysed 12 were solid meat extracts, 25 were normal meat extracts, and 42 were fluid meat extracts; one was a meat juice. In all the solid extracts the ash and salt exceeded the limit named by the Canadian standard. Fat was in decided excess in 17 samples. The Canadian *standard for nitrogen content*, 8 per cent. of the total solid matter, was met by all but four of the samples. Favourable notice was given to most of the samples, and their keeping qualities appear to be of the best.

Verdun Protestant Hospital for the Insane, Quebec.

During 1913 477 men and 433 women were treated in the Verdun Protestant Hospital for the Insane, near Montreal. There were 247 admissions. Of 151 discharged 74 had recovered, 45 improved, and 32 unimproved. There were 92 deaths. The percentage of recoveries was 31·62; of deaths, 10·10. The youngest patient admitted was 15 years and the *oldest* 88 years. There were only eight voluntary admissions. Receipts were $159,938, expenditure $162,465, deficit $2,527. The Quebec Government contributes $142 per patient per annum.

Feb. 10th.

Correspondence.

"Audi alteram partem."

AN INTERNATIONAL INSTITUTE OF PATHOLOGY.

To the Editor of THE LANCET.

SIR,—No one will be disposed to deny that humanity is becoming more homogeneous. Local boundaries and prejudices are passing away with the increase in the means of communication and rapidity of transit. "International" is the "leit-motif" of to-day. The opening of the Palace of Peace at The Hague last year is the outward expression of this sentiment and, though the project has been heaped with ridicule, still, taken merely as a feather in the wind, any thoughtful mind must regard it as of real import.

Art and science have always been regarded as international, and in medicine the names of Pasteur, Lister, Virchow, and Koch must ever be classed among the extra-national in that their work knew no national frontiers. What was so nobly said to Lister might [illegible] be said of them, "Not a [illegible] kind, with uncovered head, salutes you." The world now has a "Palace of Peace." Why should it not also have a "Palace of Pathology"?

In this country already the Insurance Commissioners have at their disposal a substantial annual grant for original research. Working on these lines, why should we not see an international institute of pathology established on some neutral territory and subsidised by contributions from the governments of the civilised world? All medical material, other than clinical, might be sent to this International Medical Commission; thither all medical publications, irrespective of country or language, duplicate slides of all unusual pathological sections and bacterial cultures, might be sent for adjudication. But who are to be the adjudicators? This problem might be left in the hands of the Permanent Commission of the International Congresses of Medicine. Is it a chimera to conceive a series of medical scholarships subsidised by the contributing nations and allotted on similar principles to the Rhodes scholarships? Statistics, too, might converge on this institution, and thus much of the overlapping which individual national effort shows to-day be avoided. The *project is a* vast one and would require infinite elaboration. I merely submit it, in all humility, for what it is worth. I am, Sir, yours faithfully,

W. B. AINGER, F.R.C.S. Eng.

Sloane-street, S.W., Feb. 23rd, 1914.

THE MEIOSTAGMIN REACTION IN THE DIAGNOSIS OF CANCER.

To the Editor of THE LANCET.

SIR,—The brilliant results which have been achieved on the Continent by Ascoli and a great number of other workers by means of the meiostagmin reaction must make this a question of importance to all who are interested in the early diagnosis of malignant disease.

The object of this communication is to give a *résumé* of 18 months' work on this subject, and to point out that the results obtained in England—or, at any rate, in Scotland—do not accord with the very favourable statistics reported by workers in Italy, Germany, and Belgium. It is difficult to believe that Scotch blood sera differ from continental sera, and so one is forced to inquire if the malignant disease found here does not differ in some respect from that found in those countries. The technique can hardly be at fault, as the writer was very *kindly instructed by Ascoli and Izar in* the laboratory in Catania; and the later experiments, reported below, were done in collaboration with Dr. Urizzio, who had previously obtained most successful results while working in Vienna, Heidelberg, and Trieste. In the experiments many antigens were tried—various extracts of malignant tumours, *pancreas extract, pancreas extract* + cholesterin, myristil-agar, myristil-peptone, lecithin in toluol, and finally a mixture of linolic and ricinolic acids. With none of these were results obtained which could claim any diagnostic reliability.

With the pancreas extract there was a larger percentage *of negative reactions in non-malignant* cases—88·5 per cent., as against 61·3 per cent. with the malignant sera. However, with 11·5 per cent. of positive reactions in non-malignant cases the reaction was obviously without practical importance. Furthermore, the drop difference ("ausschlag") was not greater with serum than with antigen (*pancreas extract) and* saline alone. The addition of a small quantity of cholesterin was found to neutralise, in part or altogether, the effect of the pancreas extract. With the linolic-ricinolic acid mixture as antigen, the results were still far from satisfactory. 87 malignant sera and 85 non-malignant were tested with this antigen. Of the 87 *malignant* sera 41 gave a positive reaction; of the 85 non-malignant sera 29 gave a positive reaction. In these figures were included a number of exudates—chiefly pleural effusions—11 malignant and 9 non-malignant. If these are excluded there remain 76 malignant and 76 non-malignant sera. Of the 76 malignant sera 29 gave a positive reaction; of the 76 non-malignant sera 23 gave a positive reaction. Only one serum gave a pronouncedly high positive reaction, a reaction which arrested attention. This was from a case of cancer of the mouth and tongue. The first examination of the serum gave a drop difference of 5·5. A second specimen of blood was taken several days later, and the drop difference on this occasion was 4·4. This case had been under treatment with X rays. The patient did not differ clinically from numerous others examined, where carcinoma of the tongue, throat, &c., was present and in which the serum yielded a negative reaction.

It is to be noted that almost all the pleural or peritoneal exudates examined gave a positive reaction—usually a very high "ausschlag"—even when there was no question of malignancy. Cerebro-spinal fluid from non-malignant cases may likewise yield a positive reaction, as may also hydrocele fluid.

After the above experiments were finished Dr. Urizzio came to collaborate with me at the Glasgow Royal Infirmary. 41 malignant sera and 44 non-malignant were examined. Of the 41 malignant sera, 25 gave a positive reaction—i.e., 60 per cent. of malignant cases were positive to the meiostagmin reaction. Of the 44 non-malignant cases, 36 gave a negative reaction—i.e., 81 per cent. of non-malignant cases were negative, and 19 per cent. positive. These figures, whilst undoubtedly better than those reported above, do not show that the meiostagmin reaction is of much importance to the clinician. The large proportion of definitely cancerous sera which give a negative reaction is sufficient of itself to exclude the test from the domain of practical diagnosis.

I am, Sir, yours faithfully,
ELIZABETH T. FRASER, M.D.Glasg.,
Late Assistant Bacteriologist, Glasgow Royal Infirmary,
Beit Memorial Research Fellow.
Feb. 18th, 1914.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—After reading Dr. Thiele and Dr. Embleton's paper in THE LANCET of Feb. 21st, we feel that we are compelled to record our absolute dissent from their conclusions. We cannot help thinking that they have plunged somewhat lightly into this subject. They state that "the use of cholesterin and other anticomplementary substances ...... introduces a very serious source of error."

Cholesterin antigens have now been used for some considerable time as a routine in at least four important laboratories—namely, by Browning and Mackenzie in Glasgow, Hans Sachs in Frankfort, Swift in the Rockefeller Institute, and by ourselves at the London Hospital; and it would appear strange if the elementary points raised by Dr. Thiele and Dr. Embleton had not already received due attention. So far as we are concerned we dealt with these questions in our paper of 1912[1] which Dr. Thiele and Dr. Embleton have apparently overlooked. We showed at that time that the anticomplementary action of our antigen was slightly greater than that of the same extract without cholesterin, but it naturally occurred to us to use less of our antigen in order to make the anticomplementary effect equal to that of the old antigen. The great advantage which followed the use of our formula was therefore in no way dependent upon the anticomplementary action of cholesterin. All this work has been confirmed independently by Swift and others who have not published. In our opinion the experimental data given by Dr. Thiele and Dr. Embleton do not justify such sweeping deductions. The present place is not, however, convenient for pointing out in what manner they have obtained results absolutely opposed to ours.

Turning to the practical side of the question, we will only refer to one of the authors' concluding paragraphs. We find here a statement which we hope is only intended as a figure of speech and not as a statement of fact: "...... People who use anticomplementary antigens are continually reporting positive Wassermann reactions with anticomplementary sera from corpses, after anæsthetics and hypnotics, and in scarlet fever, &c." We do not know how many non-syphilitic conditions "&c." is intended to cover, or who has been continually making these reports. We have had a large experience of post-mortem sera, and our results have always been entirely satisfactory.

In the current number of *Brain* we have discussed many of these questions in detail. The conclusions are based, not only upon experimental work, but also upon the investigation of several thousands of patients.

We are, Sir, yours faithfully,
JAMES McINTOSH,
PAUL FILDES.
Bacteriological Laboratory, London Hospital, E., Feb. 24th, 1914.

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[1] Zeitschrift fur Chemotherapie, 1912, i., 79.

THE PAYMENT OF FEMALE MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—We understand that the posts advertised in your issues of Feb. 14th and 21st for two medical inspectors under the Board of Control (Mental Deficiency Act) are identical as regards the work required, but the payment offered is different, being £350 rising to £550 for the woman, and £400 rising to £600 for the man.

The Association of Registered Medical Women, supported by the British Medical Association, has strenuously upheld the principle that where men and women are doing identical work the rate of payment should be the same. The attempt to obtain the services of a woman at a cheaper rate than those of a man is not only unfair to the woman, but is likely to introduce a form of competition between practitioners of the two sexes which will be prejudicial to both and to the best interests of the medical profession.

We hope that medical women will not accept the salary offered, and that the Board of Control will see fit to reconsider its decision and to remove the inequality. We are, Sir, yours faithfully,

JANE WALKER,
President of the Registered Medical Women's Association.
F. MAY DICKINSON BERRY,
Chairman of Committee.
Harley-street, W., Feb. 24th, 1914.

THE EDINBURGH MEDICAL GUILD.

To the Editor of THE LANCET.

SIR,—I shall be glad if you will kindly correct an error in the report of your Special Commissioner *re* Medical Practice under the Insurance Act in this week's issue of THE LANCET on p. 566, item 7. Edinburgh Medical Guild is described as "a local body." This is an error, as the guild is open to all medical men in Scotland who have not accepted service under the Insurance Act, and at present it has members from various parts of Scotland.

I am, Sir, yours faithfully,
FREDERICK PORTER, M.B. Edin.,
Honorary Secretary, The Medical Guild, Edinburgh.
Edinburgh, Feb. 21st, 1914.

⁂ The word "local" was used as opposed to the word "general."—ED. L.

DIABETES INSIPIDUS AND INFANTILISM.

To the Editor of THE LANCET.

SIR,—Your annotation on this subject in to-day's issue leads me to draw attention to some recent experiments which testify against the notion that diabetes insipidus and genital atrophy are ever really of pituitary origin. That the genital atrophy of the adiposo-genital syndrome of man does not depend on the posterior pituitary lobe was proved conclusively by the case of Maranon (1911): microscopical examination showed that a hæmorrhagic focus had destroyed the anterior pituitary lobe and had entirely spared the posterior. This case, then, seemed to show that the genital atrophy was brought about by the destruction of the anterior lobe.

But Marrassini and Luciani (1912), after a very extensive series of castration experiments in rabbits and many other mammals, found that macroscopic and microscopic changes in the pituitary were inconstant and insignificant when present. This was confirmed in 1912–13 by Degener and Livingston, who never found pituitary hypertrophy in castrated rabbits. In December, 1913, Iscovesco showed that a special lipoid extracted by him from the anterior pituitary lobe, when injected hypodermically into rabbits for a long period at regular intervals gave no genital changes in either sex on necropsy. In the same month Camus and Roussy, experimenting on dogs, concluded provisionally that polyuria and the genital atrophy of the adiposo-genital syndrome are probably not due at all to a lesion of the pituitary, even when, as often happens, a pituitary lesion is unquestionably present, but depend on a neighbouring parapituitary basal lesion which injures centres or paths which are intimately connected physiologically in a way at present unknown with the nutrition of the testes and ovaries. Cushing's unaccountable polyurias after hypophysectomy, then, were due to undiscovered parapituitary lesions caused by the operation; but pituitary operations do not always produce such lesions. In one of Camus and Roussy's dogs a total, or almost total, hypophysectomy was followed by an enormous adiposity with perfect integrity of its testes and sexual functions. Here the adiposity was due to the loss of the posterior pituitary lobe, and the genito-sexual integrity was due to escape of the parapituitary genito-trophic centre and path. It is, of course, true that the posterior pituitary lobe has a diuretic function, and so also (to a slight extent) has Iscovesco's special anterior pituitary lobe lipoid.

We are forced to conclude, therefore, in the present state of our knowledge, that while there are really such conditions as pituitary glycosuria and pituitary adiposity, it is highly probable, if not certain, that pituitary diabetes insipidus and pituitary genital atrophy have no existence in man, rabbit, and dog.—I am, Sir, yours faithfully,

London, N.W., Feb. 21st, 1914. LEONARD J. KIDD.

FRACTURE OF THE EXTERNAL MALLEOLUS.

To the Editor of THE LANCET.

SIR,—As the result of reading Sir John Bland-Sutton's interesting paper on the treatment of fractures of the external malleolus in THE LANCET of Feb. 7th, I am tempted to ask the following questions: 1. Whether as a routine he removes the external malleolus when fractured? 2. Is there any possibility of a valgus or varus condition of the foot resulting? Under such circumstances would a stiff ankle be better than talipes valgus or varus? 3. Is there any displacement of the peronei tendons, and if so, what means are taken to remedy such displacement?—I am, Sir, yours faithfully,

B. WHITCHURCH HOWELL.

Great Portland-street, W., Feb. 19th, 1914.

GLANDERS IN HUMAN SUBJECTS.

To the Editor of THE LANCET.

SIR,—May I trespass on your space and in view of the cases of glanders in human subjects recorded in THE LANCET of Dec. 13th, 1913, p. 1696, by Mr. H. M. M. Woodward and Mr. K. B. Clarke, direct your attention to the very interesting case of chronic glanders in a shoemaker described in the *Nederlandsch Tijdschrift voor Geneeskunde*, Nov. 22nd, 1913, by Messrs. J. W. van der Valk and H. J. M. Schoo, of Amsterdam?

This is the first case recorded in Dutch medical literature. Full bacteriological examinations were made and excellent plates are given.

I am, Sir, yours faithfully,

HUBERT M. BOSHOUWERS, M.D.

Antofagasta, Chile, Jan. 22nd, 1914.

THE RÔLE OF SYPHILIS IN MENTAL DEFICIENCY AND EPILEPSY.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 14th you mention the importance of the systematic examination of the mentally deficient both clinically and by the Wassermann reaction, and you refer to the recent pioneer work in England of Dr. K. Fraser and Dr. H. F. Watson.

I should like to point out that in the sixty-seventh report of the Commissioners in Lunacy published in June, 1913, and in our tenth annual report for the year ending March 31st, 1913, I published the results of my investigations into the incidence of syphilis among 163 mentally deficient patients then resident at this asylum.

I am, Sir, yours faithfully,

W. REES THOMAS,
Senior Assistant Medical Officer and Pathologist.

East Sussex County Asylum, Hellingly, Feb. 23rd, 1914.

LONDON: ORGANISATIONS FORMED TO COMBAT THE ACT.

To the Editor of THE LANCET.

SIR,—I am instructed to correct a slight inaccuracy in the account published with this sub-heading in your issue of Feb. 21st.

Definition 6 which reads: "6, National Medical Union, formed in Manchester, and now the federating body for non-panel associations" is not quite correct, inasmuch as the federation is a new body formed at London at a Conference of Non-Panel Associations held on Nov. 29th, 1913.

Definition 6 should therefore read: 6, National Medical Union, formed in Manchester, now a unit of the Federation of Non-Panel Associations under the title of "Manchester District."

This entails the addition of a thirteenth definition: 13, National Medical Union, a federation of non-panel associations formed at London on Nov. 29th, 1913, at a conference of delegates representing over 1000 non-panel practitioners in various parts of Scotland and England. At this conference the Manchester society agreed to hand over the title "National Medical Union" to the new federation, itself adopting the designation of the Manchester District of the new body. The federation now known as the National Medical Union is distinct in origin, executive, and policy from the older body of the same name, which together with the Edinburgh Guild and various London non-panel associations has coöperated in a new establishment. I am, Sir, yours faithfully,

ROBERT CARSWELL,
Hon. Secretary.

346, Strand, W.C., Feb. 23rd, 1914.

THE PUBLIC HEALTH (OPHTHALMIA NEONATORUM) REGULATIONS, 1914.

To the Editor of THE LANCET.

SIR,—These regulations, dated Feb. 5th, 1914, together with a circular letter of the 6th inst., have just been issued by the Local Government Board to local sanitary authorities, extending the compulsory notification of this disease to every sanitary district in England and Wales. They come into force on April 1st, 1914.

The fee of 2*s.* 6*d.* will be paid to medical practitioners for each case arising in their private practice, or 1*s.* for cases in public institutions, or for Poor-law cases. Midwives will receive 1*s.* for any case, wherever occurring. The actual fees received will be 1*d.* less than stated, as the notifications have to be sent to the medical officer of health by the penny post, if not delivered by hand at the town-hall. If a practitioner and a midwife both notify the same case, are both to receive fees?

The issue of these regulations, besides future regular work, at once provides every medical officer of health with the necessity of finding time to (1) compose and issue a circular to all medical practitioners, resident *or* practising in the district of his local sanitary authority; (2) the same to all certified midwives; (3) prepare and issue, guided by the schedule to the regulations, books of notification forms (with counterfoils) for the use of the said midwives; and later on (4) prepare and distribute quarterly fee-account forms to all the aforesaid practitioners and midwives. For this considerable addition to his duties the medical officer of health gets no more remuneration, not even 1*s.* per case. So the Antitoxin Order, 1910, still retains its distinction as the only Order of the Local Government Board which impressed on local authorities that increased duties should bring increased salary to the poor medical officer of health.

No provision is made in these regulations for the enforcement of any penalties on practitioners or midwives who do not obey them. If the medical officer of health issues books of forms (as instructed) to midwives who practise in his district but do not reside there, a midwife may receive as many as three or four from different medical officers, causing much confusion, and then might notify a case to the right medical officer of health on the wrong book, or *vice versâ*. It should have been sufficient—as under the Tuberculosis Regulations, 1912—for each medical officer of health to provide books for those midwives *residing* in his own area. The term "child" is not directly defined, but from article I. (i) of the definitions one presumes that by "child" is meant "an infant less that 21 days old."

No time-limit of 36 hours, as in the Notification of Births Act (1907), or of 48 hours, as in the Tuberculosis Regulations (1912), is given, but a practitioner must notify "on first becoming aware" and a midwife "forthwith." Article VI. contains a phrase that will cause as much trouble as the "exemption section" of the Notification of Births Act (1907)—viz., that a midwife must notify "unless the case has been already notified by a medical practitioner." A converse exemption is supplied in Article V. (1 b) for a medical practitioner. The section of the Notification of Births Act referred to has greatly impaired the usefulness of that Act.

As only "certified" midwives are referred to throughout these latest regulations of the Local Government Board, I presume that the old-fashioned midwife, who is only *registered* and not certified by the Central Midwives Board, need not comply with the regulations.

The medical officer of health is an expositor of preventive and not of curative medicine. Therefore, under these regulations he cannot do more than endeavour to see that an infant notified as suffering from "ophthalmia neonatorum" has prompt treatment at the hands of a private practitioner or in a public institution. If the parent or guardian does not provide this, the medical officer of health can either urge his Council to prosecute the offender under Section 12 of the Children Act, or (that failing) bring the case to the notice of the local representative of the Society for the Prevention of Cruelty to Children.

I am, Sir, yours faithfully,

ENERGY.

Feb. 11th, 1914.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—There can be no doubt that the articles in THE LANCET, the *British Medical Journal*, and the *Morning Post*, to which I alluded in my letter of Feb. 14th, discussed the question of "free choice" solely from the point of view of the importance of patients being able to choose their own doctor. Dr. Shaw challenged me to show how such "free choice" could be extended to patients under a State service, but instead of answering my suggestions he now shifts the argument to the question of doctors being able to limit their panels by their right of "free choice" of patients. If "free choice" means this right on the part of the doctors and not the right of the patients, then certainly I am "using the words 'free choice of doctor' in some different sense from that generally understood by the profession," but not different from that in which it was used in the articles referred to above, nor from that in which my colleagues in the State Medical Service Association use it.

Dr. Shaw approves of the panel system because doctors are placed in competition to secure patients [illegible], and because success in doing so [illegible] *remuneration.* It is just this system of trying to please patients for the sake of personal gain that seems to me and other advocates of a State Service inadvisable. If this objection were removed by the formation of a whole-time salaried service, no one would be adverse to patients enjoying whatever therapeutic advantages there may be in "free choice of doctor" in so far as that were possible.

Dr. Major Greenwood asks: "Are all the 20,000 panel doctors to be paid uniform salaries, as is usual in a Government service ......?" I cannot think of any Government or municipal service where the whole staff is paid a uniform salary. The salaries vary according to seniority, rank, and the value of services rendered, and so it would be in a State Medical Service; there would be seniors, juniors, assistants and junior assistants, each grade receiving a different scale of remuneration. Amongst the panel doctors to-day there are partners, first, second, third, and even fourth in seniority, and there are senior and junior assistants, all receiving different rewards for their labours, though probably year in and year out they all do about the same amount of work. The present position and remuneration of each panel doctor could be made the basis of his rank and salary under a State Service to start with.

Surely to maintain that Poor-law patients have "free choice of doctor" because they can pack up and remove to the district in which the doctor of their choice resides would be ludicrous even if it were accurate. I believe that under the Acts of Settlement of Charles II. and 1835 the guardians would refuse them relief and bundle them back to the parish from which they came. Dr. Greenwood states: "Like all reformers of his kind Mr. Parker has not the slightest regard for vested interests. He does not consider in the least the present purchase value of medical practice ...." A statement of this sort is not argument and it is not true. It can only be made, like Dr. Shaw's reference to extreme Socialists and Shavian distrust, in order to prejudice the case for a State Service in the eyes of the profession. As it is impossible to go into every detail of such a big subject within the limits of a letter to the press, I will refer Dr. Greenwood to the concluding paragraphs of an article of mine published in the *Fortnightly Review* for May, 1913, where he will find that I not only recognise the necessity of guarding the vested interests of the profession during the transition stage from private practice to public service, but make various suggestions as to how this might be done.

In conclusion, may I say that neither Dr. Shaw nor Dr. Greenwood has answered the question I wished to raise—namely, whether the present methods of bringing the profession into touch with disease and of dealing with it were the best possible methods for securing a healthy nation. However, I have pleasure in noting that Dr. Shaw speaks of my "fair vision of extension of medical aid to every individual who needs it" with some approval, though he is content with present methods; whilst Dr. Greenwood apparently does not disapprove of the "highly coloured picture of the result to be obtained at the end of the journey," but doubts whether any Government having regard for its well-being could be found to put it into effect. Visions stimulate public opinion, and public opinion can put heart into Governments.

I am, Sir, yours faithfully,

Feb. 23rd, 1914. CHARLES A. PARKER.

To the Editor of THE LANCET.

SIR,—While opinions are divided on the advantages and disadvantages of converting the present panel system into a salaried State service, I think there can be only one opinion as to the advisability, indeed, the urgent need, for a modified State service in connexion with the panel system. I have ventured to suggest something of the kind at various times since the Bill was first published, and even among the bitter opponents of the Act what I now propose has been more or less cordially approved, in some cases, of course, *faute de mieux*, but for the most part with full acceptance of the importance of it both to the State and to the insured.

It is briefly this: that in each district there should be appointed consultants of proved ability who, upon adequate salaries, would give their whole time to the work of diagnosing cases sent to them by the panel doctors, and that, in addition to these consultants, there should be specialists in X ray work and in pathological analysis. Even the warmest advocates of the panel system cannot deny that it fails, and is bound to fail, in the treatment of organic diseases with obscure symptoms. Apart from the fact that few of the panel doctors have had the experience and the training which would enable them to diagnose the more subtle symptoms of organic disease, it is impossible for them to give the necessary time to such diagnoses. Within my own knowledge poor people suffering from ulcers and cancer of the stomach and intestines have been treated as cases of simple dyspepsia. One poor woman, who recently died from intestinal cancer, was from the first treated with bismuth and soda, and no one was so shocked as her panel doctor when he discovered too late what was the matter with his unfortunate patient. He was both skilful and kindly, but to diagnose such a case in the minute and a half—which is about the average he is able to give to each patient—would have been impossible for the best expert in Harley-street.

To the list of consultants should be added a specialist in malingering, to whom doubtful cases of that disease could be sent. If this plan were adopted it should be enacted that no patient should be put on benefit for more than a week, or at most a fortnight, without certification by the proper consultant. This provision alone would save the country many thousands in sick benefit, to say nothing of the economic gain of sending slackers back to work. To begin with, and perhaps permanently in some districts, it would be desirable to enlist the help (upon proper terms, of course) of the out-patients' departments of hospitals and of the better class dispensaries. Doubtful cases that do not get well within a fortnight under panel doctors' treatment should be sent to these institutions for diagnosis and certification or discharge.

I am, Sir, yours faithfully,

Feb. 23rd, 1914. X. Y. Z.

LITERARY INTELLIGENCE. — Messrs. Thomas Murby and Co. announce for early publication "The Mind at Work: A Handbook of Applied Psychology," edited by Geoffrey Rhodes, with contributions by Charles Buttar, M.D., E. J. Foley, and Professor L. L. Bernard, Ph.D.

THE AFTER-CARE ASSOCIATION.—The annual meeting of this association was held on Feb. 23rd in the library of the Royal College of Physicians of London, when Sir Thomas Barlow presided. The report showed that the experiment tried since the beginning of November last, in connexion with certain asylums in the south of England, of receiving mental patients discharged "on trial" had been satisfactory. The income from subscriptions and donations showed a slight decrease. Sir Thomas Barlow said that it was now recognised that those who had been afflicted ought to be set upon their feet again. Social problems could not be solved by leaving everything to be done by the State. Of the institutions which helped to bridge over for the poor the interval between recovery from illness and the return to wage earning, none deserved support more than the After-Care Association. The public mind should be disabused of the pessimistic idea that cases of mental disease were hopeless.

THE NATIONAL INSURANCE ACT.

THE GENERAL MEDICAL COUNCIL AND "OWN ARRANGEMENTS": A MEMORANDUM BY SIR DONALD MACALISTER.

A MEMORANDUM was presented by Sir Donald MacAlister, President of the General Medical Council, to the National Insurance Act Committee and the Executive Committee of the Council, on Monday last, Feb. 23rd, when these committees had under their consideration all the circumstances under which insured persons are entitled to make their own arrangements for the receipt of medical benefit. The memorandum runs as follows:—

The President desires to remind the committees that in November, 1913, he received and transmitted to members certain communications in which it was alleged that one or more Local Insurance Committees had entered into or sanctioned forms of agreement with unqualified persons, by which the latter undertook to provide medical attendance and medicines to insured persons who were permitted to "make their own arrangements" for medical treatment under the National Insurance Act. Owing to his illness the President was unable to be present at the meetings of the National Insurance Act Committee at which these communications were considered. The minutes of the meetings, at which Dr. Langley Browne acted as chairman, were laid before the Council at its November session and approved. The minutes showed that the committee were of opinion that the action taken by one at least of the Local Insurance Committees raised questions of grave importance as to the relation of the Medical Acts to certain Regulations made under the Insurance Acts. As it appeared doubtful whether the Local Committee in question was acting with the official sanction of the Insurance Commissioners, inquiries were addressed to the latter, and, as will be seen from the annexed correspondence, objections of a legal character were urged in the public interest against the Local Committee's proceedings.

The Chairman of the National Health Insurance Commission for England (Sir Robert L. Morant) met the Council's committee on Nov. 27th, 1913, and after a statement made by Dr. Norman Walker, at the request of the committee, in regard to the changes in their Regulations which it was desired that the Commissioners should make in respect of unqualified persons, a discussion took place on the questions thus raised. Sir Robert Morant agreed that the objections that had been raised to some aspects of the action of the Local Committee were valid, and stated that its procedure had apparently been adopted under a misapprehension. At the same time it was the case that, as had been explained by the Government during the consideration of the Bill in Committee in the House of Commons, under the provisions of the present Section 15 (3) it was open to Insurance Committees, if they thought fit, to allow insured persons who so desire to make their own arrangements, subject to certain conditions, with persons not medically qualified, and to receive a contribution towards the cost thus incurred. The 1913 Regulations contained no reference to this matter, and therefore made no special provision for such cases. It was thus impossible for the Commissioners to prevent the recurrence in those cases of action such as that referred to without issuing new and explicit Regulations dealing with the case of arrangements with unqualified persons.

Sir Robert Morant stated that the Commissioners, in drawing up the amended Regulations and Memoranda for 1914 (which were already in course of preparation) would be prepared to meet the wishes of the Council in regard to the objections in question. By making the requisite amendments in the Regulations and issuing instructions to Local Committees they would set forth clearly that the procedure to be adopted in the case of "own arrangements" made by insured persons with qualified practitioners was not applicable to the case of "arrangements" which certain insured persons might be permitted by the Insurance Committee to make, on their own responsibility, with unqualified persons. It was beyond question that, in the case of arrangements made by insured persons with unqualified persons, some of the conditions of the Exchequer Grant—for instance, the undertaking to give domiciliary treatment for tuberculosis in accordance with the Local Government Board Order—could not be fulfilled. As to a point which had been raised about medical certificates furnished to Approved Societies by insured persons when claiming sickness benefit, Sir Robert Morant stated that no question arose as to treating any statement of an unqualified person as a medical certificate. The rules of Approved Societies require the society to be satisfied by a medical certificate or other *evidence of incapacity before admitting the claim* to sickness benefit. Any such statement will be merely evidence which the society may have to consider in adjudicating upon a claim for sickness benefit in accordance with its rules. Responsibility for weighing that evidence rests with the society.

After further discussion, Sir Robert Morant repeated that the Commissioners, in the revision of the Regulations then in progress, would gladly give the fullest possible effect to the wishes then expressed to him on behalf of the Council, and in particular would endeavour to secure that the memoranda and official forms now to be issued by the Commissioners on this subject, for the guidance of local committees and others concerned, should be worded with a view to avoid misunderstanding. Every effort would be made to exclude phrases which might seem to afford occasion for any contravention of existing statutes bearing on the subject. Nor would the Commissioners approve any procedure which failed to make the necessary discrimination between the unqualified person and the practitioner who is "duly qualified" according to law.

The letter written by the President at the request of the Council in order to give formal expression to its views, and the letters sent by the Commissioners in reply thereto, are appended. The new Regulations issued by the Commissioners in pursuance of the above-mentioned discussion have been circulated to members of the Council, and published for general information. The new Memorandum (191/I.C.) of the Commissioners, explaining more fully the purport of Regulation 44, is circulated herewith.[1]

These documents appear to the President to give substantial effect to the wishes which the Council requesteed him to express to the Commissioners. He is satisfied that the Commissioners fully apprehend that the Council attaches great importance to its contention that nothing should be done, by administrative action, which would tend to defeat the purpose of the Legislature in framing the Medical Acts—namely, "to enable persons requiring medical assistance to distinguish qualified from unqualified practitioners"; or which might be deemed to confer official "recognition" on persons who according to law are "unqualified" and are prohibited from assuming the status and responsibilities of registered medical practitioners. He submits the Regulations and Memorandum to the Executive Committee in the belief that his colleagues will desire to acknowledge cordially the readiness the Commissioners have shown to consider the representations made to them, and to remove difficulties which have arisen in connexion with the local administration of the National Insurance Act.

Feb. 23rd, 1914. DONALD MACALISTER, President.

The following are the appended letters:—

A

General Council of Medical Education and
Registration of the United Kingdom,
299, Oxford-street, London, W.

No. 34946. *9th December*, 1913.

DEAR SIR ROBERT,—The General Medical Council has learned that one of the Local Insurance Committees has recently approved a form of agreement, between certain insured persons and a person who is not qualified under the Medical Acts, by the terms of which the latter undertakes to provide the insured persons with medical attendance and medicines, to give the domiciliary treatment included as a part of Sanatorium Benefit, and to furnish such certificates as may be required to enable the insured persons to obtain the several benefits of the National Insurance Act.

The Council has no reason to believe that the form of agreement in question has received the official approval of the Commissioners; and I am now, on behalf of the Council, writing to ask that the Commissioners should formally intimate their disapproval of it to the Local Insurance Committee.

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[1] The Memorandum of the Commissioners was published in THE LANCET of Feb. 14th, p. 502.

The information in the possession of the Council makes it clear that the form of agreement employed in this case is appropriate only to an arrangement made with a legally qualified practitioner, and that some of the undertakings it contains cannot be legally carried out by an unqualified person. I am advised that such agreements are in fact invalid, inasmuch as they contravene the provisions and defeat the purpose of the Acts regulating medical practice in this country. If such action on the part of the Local Insurance Committees were to become general, it would moreover, in my opinion, defeat the objects of the National Insurance Act itself.

The Council is confident that the Commissioners will realise the importance in the public interest of the question of principle thus raised; and that they will take all proper steps both to bring to an end the procedure to which objection is taken and to inform the authorities who may be concerned that, in connexion with the administration of medical benefit, no valid agreement of the kind can subsist with an unqualified person.

I am, yours very faithfully,
(Signed) Donald MacAlister, President.

Sir Robert Morant, K.C.B.,
National Health Insurance Commission.

A note of formal acknowledgment was followed by—

C

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
January 9th, 1914.

Dear Sir Donald MacAlister,—I write to say that we now have our new Medical Regulations practically completed containing paragraphs that will make it possible to deal, in the way that the General Medical Council indicated to be in their view desirable, with the various points about unqualified practitioners that were discussed at my meeting with your committee on 27th November; and I shall hope in a few days to be able to send you, as we arranged, a draft of the explanatory Circular and Forms needed in this connexion. I will send you copies of the new Regulations directly any are available from the printer.

When you receive them you will see that the subsections of the new Section 44 (formerly Section 49) set out in separate paragraphs the procedure to be followed in the case of those insured persons on the one hand who make "own arrangements" with unqualified persons, and those on the other hand who make "own arrangements" with registered practitioners. The words "in such manner" in the new Section 24 (formerly Section 14) mean that a special form will be required for use in these cases. The separation of Subsection (2) from Subsection (1) of the new paragraph 44 in the new Regulations makes it clear that the committee does not h[illegible] comparison between the treat[illegible]alified person and the treat[illegible]fied practitioner. Furthermore, under the new wording of paragraph 44 (4) it will be necessary for the Insurance Committee to make plain in any "own arrangements" with unqualified persons that there are some things required as conditions of the Treasury grant, which the unqualified person will not be expected to do (for the reason, of course, that he is not qualified for doing them), without for that reason precluding all possibility of contributions being made by the Insurance Committee towards the insured person's expenditure in such cases.

With the new Regulations thus clear on these points I do not think we shall now find any particular difficulty in arriving at suitable means for giving effect to what your committee indicated, when we draft the explanatory Circular and Forms; but I shall be glad if you let me know of any points in the latter, when I send them to you, which seem to you either not clear or inconsistent with what is in view.

I am, yours very truly,
Robert L. Morant.

On Jan. 19th Sir Robert Morant wrote, enclosing a copy of the New Regulations for Medical Benefit, and indicating that in Section 44 steps had been taken to make definite distinction between qualified practitioners and unqualified persons in the case of insured persons desiring to make their own arrangements; and on Feb. 14th the communication which follows was accompanied by the memorandum to Insurance Committees explaining generally the provisions of the Medical Benefit Regulations for 1914, governing "own arrangements" under Section 15 (3) of the 1911 Act, both with registered practitioners and with unqualified persons. This memorandum was published in The Lancet on that date through the courtesy of the Commissioners.

As regards the memorandum Sir Robert Morant writes to Sir Donald MacAlister:—

You will find, I think, that the two points which your Council pressed us to make explicit have been fully met, i.e.:—

(*a*) Attention has been unmistakably drawn to the distinction between "own arrangements" with registered practitioners and "own arrangements" with unqualified persons; and

(*b*) It has been made quite clear that Insurance Committees, in dealing with applications for "own arrangements" of the latter kind, are under no obligation to institute any comparison with the treatment afforded by a qualified doctor, or, indeed, to inquire into the nature or form of the proposals under consideration between the unqualified person and the insured person making his own arrangements.

Forms designed for the assistance of Insurance Committees in dealing with various types of applications for "own arrangements" have been prepared.

London Panel Committee.

The Insurance Commissioners have declared the following to constitute the first Panel Committee for the County of London to hold office until July 15th, 1914:—

Battersea—Knox, A. W., Richards, J. T.
Bermondsey — Jaynes, V. A., Richmond, B. A. (Chairman).
Bethnal Green—Grace, J., Sasun, D. D.
Camberwell—Batten, G. B. (Vice Chairman), Brenchley, A. D., Clatworthy, J. H., Esler, R., South, F. M. W.
Chelsea—Hudson, E., Orr, J. J.
City of London—Scanlan, J. J., Strong, R. H.
Deptford—Gooding, C. G., Payne, W. H.
Finsbury—Hockridge, T. G., MacGregor, R. D.
Fulham — Coltart, G. H., MacBurney, J. H.
Greenwich—Corfe, R., Hogarth, O. W.
Hackney—Keenan, T. F., Swan, A. T.
Hammersmith — Butler, J. A., Davidson, W. A.
Hampstead—Cunnington, C. W., Taylor, E. Claude.
Holborn—Two vacancies.
Islington—Jackson, J E., Patch, H. H. L., Sherry, J J. A.
Kensington — Atteridge, J. J., Carter, R.
Lambeth — Cazenove, W. R., Farman, R. J., Fraser, D. H., Taylor, H.
Lewisham—Donnellan, R. V., Hatfield, W. H.
Paddington — Angus, J. A., Williams, J. O.
Poplar—Cardale, H. J., Paxton, J.
St. Marylebone — Simpson, J. Pollock, Williams, R. Thorold.
St. Pancras—Fletcher, J. Corbet, Freyberger, L., Marshall, T.
Shoreditch—Two vacancies.
Southwark—Denning, J. V. C., Smith, F. J. Porter.
Stepney — Bernstein, M. M., Williams, W. O
Stoke Newington—Page, A. M., Welply, A. (Secretary).
Wandsworth — Biggs, A. C. B., McMurtry, W., Roe, A. D., Thomas, C.
Westminster — Roach, W. F., Starkie, R. F.
Woolwich—Clarke, J., Mair, A.
Women—Baker, Elizabeth, Bentham, Ethel.
Coopted—Mills, H. H., Shaw, Lauriston E. (Treasurer).

Medical Incomes under the National Insurance Act.

In view of the system of payment adopted in lieu of the capitation system at Manchester, and of the resolution of the Insurance Committee in that city to limit incomes to be derived from panel practice to £800 a year, the sums realised during the first year of the working of the Act by the 300 medical men who have gone on the panel in Manchester are of interest. The largest individual income has been £1980; 14 practitioners have earned between

£1000 and £2000; 11 between £800 and £1000; 32 between £500 and £800; and 47 between £300 and £500. Among those making incomes less than £300 per annum from panel practice, and particularly among 88 practitioners who have made less than £50, there are, no doubt, many who only attend as patients under the Insurance Act the servants and other dependents of their private patients in the wealthier neighbourhoods in which the bulk of their work is done. It will be interesting to set the above figures beside those that will record the working of the Act at Manchester during the current year. The figures given for panel practice at Leeds during 1913 form a useful comparison. Out of about 190 medical men on the panels there, 5 have made incomes of between £1000 and £1500, 7 between £800 and £1000, 25 between £500 and £800, and 27 between £300 and £500; 30 made less than £50. The above figures, of course, take no account of partnerships.

LANCASHIRE INSURANCE COMMITTEE.

At a recent meeting of the Lancashire Insurance Committee a request was made by the Medical Benefit Subcommittee for Chadderton, Crompton, and Royton that medical men on the panel should be supplied with drugs and articles likely to be required upon an emergency, and should draw from such a stock in the event of insured persons applying to them for treatment at a time when druggists' shops were closed. The practice of making up prescriptions from their own stocks of drugs and keeping an account in accordance with the requirements of the Insurance Committee in order to obtain repayment was found to take up a great deal of time. On the other hand, the clerk to the Insurance Committee pointed out that considerable clerical work would be entailed upon the committee if the proposed change were adopted. Eventually the subcommittee's recommendation was approved subject to the County Medical Committee and the County Pharmaceutical Committee being able to arrive at a working arrangement.

Medical News.

UNIVERSITY OF OXFORD.—The Philip Walker studentship in pathology, of the annual value of £200 and tenable for three years, has been awarded to Charles Joseph Singer, D.M., Magdalen College.—The following medical degree has been conferred:—

D.M.—F. O. Stohr, Trinity College.

UNIVERSITY OF BRISTOL.—In the final examination for the degrees of M.B., Ch.B., held recently, the following candidate was successful:—

Maurice Charles Barber.

Lieutenant-Colonel Sir David Prain, director of Kew Gardens, was nominated by the President of the Board of Agriculture and Fisheries as one of the three representatives of that department at the International Conference on Phytopathology held at Rome this week.

THE CAMPAIGN AGAINST INFANT MORTALITY.—On Feb. 24th the Queen attended a matinée at the Palace Theatre in aid of the Schools for Mothers in Fulham, Poplar, Shoreditch, and Stepney. These institutions are designed to give simple advice and instruction to working women, and are aimed directly against infant mortality. Originating in Ghent, these schools, which have now spread over Europe, were first tried in England at St. Pancras in 1907. They have proved a great success in many districts of London and in provincial towns, giving meals to women at a nominal cost for six months before and a year after the birth of a child, while medical men attend the schools twice a week, when babies are weighed and the mothers advised as to their own health and that of the children. Instruction in the making and mending of clothes is also given, the whole organisation being put at the disposal of the women for 1*d.* a month.

ST. GEORGE'S HOSPITAL.—The annual dinner of the Hunterian Society of this hospital will be held on Friday, March 13th, at the Waldorf Hotel, and will be followed by a smoking concert. Tickets for the dinner will be 6*s.*, exclusive of wine, and those desirous of being present should communicate with the honorary secretaries of the society at the hospital.

THE TRAINED NURSES' ANNUITY FUND.—The Countess of Hardwicke, Lady Barlow, Lady Champneys, Mrs. Charles Balfour, and Miss Sidney Browne, members of the council of the Trained Nurses'. Annuity Fund, have issued an appeal to nurses asking them to subscribe 1*d.* per month with the object of forming a benevolent fund. The address of the Trained Nurses' Annuity Fund, of which Princess Christian of Schleswig-Holstein is the President, is 73, Cheapside, London, E.C.

ASSOCIATION OF ASSISTANT MEDICAL OFFICERS OF ASYLUMS, ENGLAND AND WALES.—The executive of this association has issued a statement which is being sent to all members and clerks of visiting committees of public asylums in England and Wales. The statement summarises the various directions in which the association desires improvement in the terms and conditions of service of assistant asylum medical officers. These have been dealt with on several recent occasions in THE LANCET, and the case for reform was set out and discussed in a leading article on Jan. 10th last.

CONFERENCE ON THE TEACHING OF ANTHROPOLOGY.—Members of the Royal Anthropological Institute, representatives of the universities, and others interested in anthropology, met at the Drapers' Hall, London, on Feb. 19th, to discuss the practical application of the teaching of anthropology in the universities. Lord Selborne presided, and Sir Henry Craik, M.P., moved a resolution which approved the findings of the joint committee of the British Association and of the Institute, and declared that in the highest interests of the Empire the extension and organisation of the teaching of anthropology in the universities of Great Britain was necessary. Professor A. Keith, the president of the Institute, pointed out the lost opportunities for good which were the result of travellers to remote parts of the Empire not having sufficient knowledge of anthropology. The Institute wished to systematise all the information that it had gained and to place that information at the disposal of every university graduate. The resolution having been adopted, Sir Hercules Read moved that the chairman and members of the joint committee represent to the Prime Minister the views of the conference and ask for the appointment of an interdepartmental committee for advising as to the form in which the sympathy and support of the Government could be best expressed. Professor T. H. Warren seconded, and the motion, which was supported by Dr. W. L. H. Duckworth, Professor J. G. Frazer, and Dr. W. P. Herringham, was passed unanimously.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Elementary Education (Defective and Epileptic Children) Bill.

THE Elementary Education (Defective and Epileptic Children) Bill, which has been introduced into the House of Commons by Mr. PEASE, the President of the Board of Education, has been printed. It lays down that it shall be the duty of the local education authority for the purposes of the Elementary Education (Defective and Epileptic Children) Act, 1899, to make suitable provision for the education of children belonging to their area whose age exceeds seven years, and who are ascertained to be mentally defective within the meaning of the Act.

Inebriates Bill.

A Bill "to consolidate and amend the law relating to inebriates" has been introduced into the House of Commons by Mr. ELLIS GRIFFITH, the Under Secretary for the Home Department. It has been read a first time.

Higher Animals Protection Bill.

Mr. CATHCART WASON, with the support of Mr. COWAN and Mr. WEBB, has presented a Bill in the House of Commons "to prohibit the vivisection of the higher animals." It has been read a first time.

The Insurance Act.

In the House of Commons on Wednesday, Feb. 25th, an animated debate took place on a motion brought forward by Mr. HAMILTON to the effect that an inquiry ought to be instituted to report whether it was desirable to substitute a voluntary system for the compulsory system of insurance under the National Insurance Act. The discussion turned largely upon the financial stability of the existing system. The Chancellor of the Exchequer resisted the motion, admitting that in time it would be desirable to inquire fully into the working of the present Act. Mr. LLOYD GEORGE strongly combated the idea of a voluntary system. Mr. BONAR LAW, the leader of the Opposition, supported the motion, which was ultimately rejected by 283 votes to 199.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 18TH.

Hospital Accommodation in Jamaica.

SIR JOHN JARDINE asked the Secretary of State for the Colonies whether anything had lately been done by the [illegible] containing an extraordinary number of cases of syphilis —Mr. L. HARCOURT answered: In reply to the first part of the question, hospital accommodation in Jamaica has been steadily augmented for a number of years past both by extension of building and by provision of additional beds. Comparison of the Blue book for 1912 13 with that of three years before shows an addition of nearly 250 beds to the provincial hospitals. A new cottage hospital was provided last year at Ulster Spring, a district remote from existing hospitals. During 1911-12 and the [illegible] departments have [illegible] the latter [illegible] in the [illegible] t patients' [illegible] er 45,000. [illegible] by nearly 90 per cent., and in the current financial year nearly £11,000 has been provided for new works, as against £522 at the beginning of the period The answer to the last part of the question is in the negative, but special provision has been made to utilise the Government medical service for dealing with disease in such districts

Medical Treatment of Insured Persons.

Mr. R. GWYNNE asked the Chancellor of the Exchequer whether his attention had been called to cases in which insured persons, on moving their residence, had been refused medi[illegible] on the grounds that they ha[illegible] therefore in [illegible] in so acting, [illegible] the administ[illegible] Insurance Act; and, if so, what steps insured persons were to take to obtain ad[illegible] on the panel act[illegible] replied) said: No c[illegible] the notice of my right honourable friend Medical men on the panel have, of course, a right under the National Insurance Act, 1911, to refuse in the first instance to accept an individual insured person, but arrangements have been made whereby a medical man may be obtained by any insured person so refused If the honourable gentleman knows of a case where the arrangement has been broken I shall be very glad to know about it.

The Cost of Medical Treatment.

Mr. F. HALL (Dulwich) in the course of a question addr[illegible] the Trea[illegible] sons had [illegible] the case [illegible] oper medical treatment to insured patients; and whether it had been suggested to the London County Council that half of the deficiency should be met out of the rates —Mr. WEDGWOOD BENN (who replied) said: Under the arrangements entered into between Insurance Committees—including the London Insurance Committee—and the [illegible] can occur upon [illegible]

Sanatoria in Derbyshire.

Mr. [illegible] the Treasury whether [illegible] aken any steps to safe [illegible] iding to sanatoria in [illegible] of the provisions of [illegible] ational Insurance Act [illegible] prohibit the payment of [illegible] mittees to any sanatoria [illegible] which might refuse to respect conscience in the manner provided in the above mentioned subsection.—Mr. WEDGWOOD BENN answered: The duty of making arrangements to provide treatment for tuberculous insured persons in institutions or otherwise and of [illegible] treatment.

Sickness in Cradley.

Mr. G. LOCKER LAMPSON asked the Secretary to the Treasury whether his attention had been called to a report of a Worcestershire Insurance Subcommittee on the sickness in Cradley, in which statements of Mr Appleton, secretary to the General Federation of Trade Unions Approved Society, were admitted to the effect that the sickness rate amongst female workers in the district was enormous and was between 6 per cent and 7 per cent, or three times the normal; and whether, if this rate was continued until the first valuation, it would entail a very heavy levy on, or a reduction of benefits to, the compulsorily insured members —Mr [illegible] right honourable friend [illegible] appear that the figures [illegible] Approved Societies or [illegible] geographical districts a[illegible] the benefits of insured [illegible] will be governed after [illegible] pro[illegible] by t[illegible] or [illegible] members

Sanatorium Benefit in Fife.

[illegible] 49 persons have received treatment since that date.

A Case of Anthrax Poisoning.

Mr C. BATHURST asked the Home Secretary whether his attention had been directed to a recent inquest upon a waterside labourer who died in Guy's Hospital on Dec 21st [illegible] hich the jury, in returning [illegible] such poisoning, expressed [illegible] should extend the regula[illegible] which applied [illegible] wharves and [illegible] pigs' bristles were dealt with; whether he was aware that the Departmental Committee on Foot-and-Mouth Disease recently called attention to the danger of such substances, unless effectively disinfected, becoming carriers of anthrax and other animal diseases, and whether he proposed as the result of the above fatality to take any action in the direction suggested by the coroner's jury.—Mr. MCKENNA said in reply: The answer to the honourable Member's first two questions is in the affirmative The rules referred to cannot be extended in their present form to wharves or to any place other than factories and workshops [illegible] made under the old Factory Act of 1891, [illegible] and workshops, but I hope [illegible] inquiries now on hand have [illegible] rules by fuller regulations [illegible] p Act of 1901, and the question of applying these regulations to wharves and warehouses where the danger may arise will receive very careful consideration

Mr C. BATHURST: Does the right honourable gentleman realise the importance of gre[illegible] Home Office and the Board of [illegible] diseases which are common bo[illegible] MCKENNA: Yes, certainly.

THURSDAY, FEB. 19TH.

[illegible] Benefits to Women.

[illegible] the Secretary to the [illegible] uences of a threatened deficiency of Approved Societies under the National Insurance Act was the refusal of benefits by some societies to women who were certified as incapable of work owing to pregnancy; and, if so, what steps the Commissioners and the Government were taking in the matter.—Mr. WEDGWOOD BENN (who replied) said: Societies are responsibile for determining in the first instance whether an insured person claiming sickness benefit satisfies the conditions of Section 8 (i.) (c) of the Act of 1911 of being rendered incapable of work by specific disease or disablement. The Commissioners have no reason to think that societies are refusing benefit in cases where they consider that this condition is satisfied.

Mr. G. LOCKER-LAMPSON: Is the honourable gentleman aware that one of the medical referees has reported to the London Insurance Committee that this is being done?—Mr. WEDGWOOD BENN: No, sir. I shall be glad if the honourable gentleman will give me the statement made by the medical referee.

County Councils and the Treatment of Tuberculosis.

Replying to Mr. G. LOCKER-LAMPSON, Mr. HERBERT SAMUEL (President of the Local Government Board) said: The great majority of county councils and councils of county boroughs in England have submitted schemes for the provision of institutional treatment of tuberculosis, which treatment will be available for all classes of the community. In some few instances the schemes are at present limited to the provision of dispensary treatment. Six county councils out of 50 and seven councils of county boroughs out of the total of 75 have not yet submitted proposals, and the department is in communication with these authorities. I understand that proposals will shortly be submitted by the London County Council for providing additional sanatorium accommodation.

Mr. LOCKER-LAMPSON further asked whether in some districts no accommodation was available for advanced cases of tuberculosis among insured persons under the National Insurance Act.—Mr. HERBERT SAMUEL answered: In some districts there is insufficient accommodation at present for advanced cases of tuberculosis, but it will be gathered from the answer I have just given that county and county borough councils generally are taking steps to provide additional accommodation for such cases as part of their schemes for the institutional treatment of the disease in all classes of the community. The question is receiving my immediate attention.

Sir RANDOLF BAKER asked the right honourable gentleman to state how many county councils had built sanatoria since the coming into operation of the National Insurance Act and how many had taken no steps beyond the provision of dispensary treatment.—Mr. HERBERT SAMUEL replied: County councils are providing the necessary sanatorium accommodation in various ways. Nine county councils have already acquired existing buildings or provided new buildings, eight have acquired beds at existing institutions and are arranging for extensions to be provided for the use of the council, and ten have purchased or propose to purchase sites for the erection of new buildings. The other councils which propose to provide sanatorium accommodation as part of their schemes have not yet definitely decided in what way the accommodation shall be provided. Only seven of the councils have limited their schemes for the present to dispensary treatment.

Progressive Decline of the Birth-rate.

Sir WALTER ESSEX asked the Prime Minister whether he had in contemplation an inquiry by a Commission or otherwise into the progressive decline in the birth-rate in the United Kingdom.—Mr. ASQUITH answered: I understand that the matter is the subject of an inquiry on which the Local Government Board and the General Register Office are represented. It does not, therefore, seem that any further inquiry is necessary at present.

Returns on Industrial Poisoning.

Mr. NOEL BUXTON asked the Home Secretary whether the cases of industrial poisoning which appeared under the head of diseases of occupation in the Board of Trade *Labour Gazette* included only those furnished by the certifying surgeons; whether there were a certain number of cases in which the medical referee overrode the decision of the certifying surgeon; whether a corrected list would show a difference in the number of cases of industrial poisoning; whether the figures in the Board of Trade *Labour Gazette* were invalidated by the absence of any reference to the decisions of the medical referee; and whether the figures as modified by the medical referee's decision appeared in any other return.—Mr. MCKENNA replied: The returns of industrial poisoning to which the question refers include all cases whether reported by the certifying surgeon, by medical practitioners, or by occupiers. It occasionally happens that the certifying surgeon's opinion is subsequently overruled by the medical referee. So far as practicable allowance has been made for these cases in the annual return published in the January number of the *Gazette*, but the cases are so few as not to affect the substantial accuracy of the monthly returns.

Vaccination in the Navy.

Mr. WILLIAM THORNE asked the President of the Local Government Board whether the calf vaccine lymph used for the Navy was supplied by his department; whether he was aware that according to the annual reports of the health of the Navy the cases of cow-pox placed on the sick list in consequence of vaccination, which were 233 in 1903, had increased to 482 in 1909, to 688 in 1910, to 845 in 1911, and to 1255 in 1912; *whether he could give any explanation of these* increases of the ill effects of the operation; and whether he would consider [illegible] *vaccine lymph* [illegible] provement upo[illegible] replied: The a[illegible] is in the affir[illegible] question, I understand that the increase in the number of cases placed on the sick list is due chiefly to the much greater care now exercised in preventing the possibility of untoward occurrences following on vaccination. With this object in view men and boys are now in a greater number of cases recorded as being on the sick list after vaccination, and are consequently excused from duty for a few days. The character of the lymph supplied has no bearing on the question, and I see no reason for any alteration of the present procedure.

Hop Substitutes in Brewing.

Mr. HERBERT LEWIS (Parliamentary Secretary to the Local Government Board) informed Mr. ROWLANDS that it was not proposed to reintroduce this session the Bill to prohibit the use of hop substitutes in brewing.

MONDAY, FEB. 23RD.

Sanatorium Benefit.

Mr. WEDGWOOD BENN informed Mr. GODFREY LOCKER-LAMPSON that a return on the subject of the administration of sanatorium benefit was in course of preparation and would shortly be laid before the House.

Insured Persons and the Selection of Medical Men.

Replying to Mr. BUTCHER, Mr. WEDGWOOD BENN said: Under the Regulations issued under the National Insurance Act insured persons who had selected or had been assigned to a medical man in the course of last year are deemed to have selected that doctor for the current year unless they gave the notice required of their intention to make a fresh selection.

Insurance Drug Fund in Manchester.

Mr. GODFREY LOCKER-LAMPSON asked the Secretary to the Treasury whether there was a deficiency in the insurance drug fund in the Manchester district to the extent of about £16,000; and, if so, whether, in consequence, chemists on the panel had only been paid 50 per cent. of their accounts during the three latter months of 1913 and only about 27 per cent. for December, although it was one of their heaviest months; and what the Government proposed to do in the matter.—Mr. WEDGWOOD BENN replied: My right honourable friend is informed that the total sums already paid or in the course of being paid by way of advances amount to approximately 60 per cent. of the total amount of the accounts presented for this year. It is not, however, possible to estimate what further sums will be payable until those accounts have been scrutinised in accordance with the Regulations and the total sums available to the Insurance Committee for the purpose have been finally ascertained.

Distribution of Insurance Funds.

Colonel GREIG asked the Secretary to the Treasury whether the accumulated funds in the hands of the Insurance Committees in Scotland, arising from payments for medical benefit for insured persons who had not yet claimed or did not desire to claim a panel doctor, were to be distributed among the existing panel doctors or to be otherwise applicable and, if so, how; whether any regulation had been laid down in London or elsewhere for the application of such funds; and whether such regulation was applicable in Scotland.—Mr. WEDGWOOD BENN wrote in reply: Both in Scotland and elsewhere in Great Britain the whole of the sums available to a committee in respect of the responsibility for the treatment of those insured persons (including the persons referred to in the question) who have not been allowed or required to make their "own arrangements" and who have not selected an approved system or institution are payable, under the regulations and the agreements entered into between committees and doctors, to the doctors on the panel upon whom that responsibility devolves.

TUESDAY, FEB. 24TH.

Distribution of Insurance Funds.

Sir HENRY CRAIK asked the Secretary to the Treasury why the amount accruing in respect of insured persons who had not chosen a doctor, and had not been assigned to any doctor [illegible] by the London Insur- [illegible] ENN replied: My right [illegible] le matter of the distri- [illegible] ention of the London [illegible]

Excessive Sickness at Cradley.

[illegible] he [illegible] of [illegible] ald an inquiry into an alleged shortage of doctors in Cradley; that the inquiry disclosed excessive sickness; and that the doctors alleged at the inquiry tha[illegible] to help themselves out of the [illegible] solvency, were refusing to give [illegible] diseases, [illegible] and bron[illegible] thereby [illegible] proposed [illegible] the mem[illegible] insolvenc[illegible] no means of confirming the allegations and expressed no opinion upon them. The remaining part of the question does not therefore arise.

Machine-Skimmed Condensed Milk.

Mr. BARNSTON asked the President of the Local Government Board whether he intended to issue an order, under [illegible] 1907, regula- [illegible] whether [illegible] o recommendations contained in Dr. Coutts's Report to the Local Gove[illegible] foods [illegible] The [illegible] to is[illegible] to m[illegible]

WEDNESDAY, FEB. 25TH.

Allocation of Insured Persons.

Mr. BUTCHER asked the Secretary to the Treasury whether he was aware that the allocation of insured persons to a docto[illegible] giving [illegible] prise [illegible] tion which had been placed by the National Insurance Commissioners on Form 110/I.C. to the effect that a person who had been al[illegible] was deemed to [illegible] Commissioners [illegible] persons a circu[illegible] take if they wis[illegible] selected but to [illegible] WOOD BENN (w[illegible] now in force no allocation is carried out, except upon the application of insured persons themselves. It was open to insured persons who were allocated to doctors last year to change their doctor at the end of the year by giving the necessary notice, and every opportunity was taken of bringing to the knowledge of insured persons their rights in this respect. It is still open to insured persons who omitted to take the necessary steps last year and who now desire to change their doctor to do so by consent, and the medical card issued to insured persons already on the lists of doctors contains full instructions on the subject.

BOOKS, ETC., RECEIVED.

ALBIN MICHEL, Paris.
La Passe Anecdotique. Hygiène de nos Aïeux, with 66 illustrations

[illegible] M.D. Cantab., M.R.C.P. [illegible]

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.
H[illegible] in West Africa. By J. Charles Ryan, [illegible] Diplomate in Tropical Medi- [illegible] I.O., West African Medical [illegible] onald Ross, K.C.B., F.R.S. [illegible]

BROTH[illegible] [illegible] rn Hall, Clerkenwell-road, London.
To Every Man in England. The Campaign Handbook of the National Brotherhood Council Price 6d.

GLAISHER, HENRY J., 55-57, Wigmore-street, London, W.
Time and the Timeless. Songs of Shadow and of Hope. By A Physician. Price 2s. 6d. net.

KING, P. S., AND SON, London.
The Problem of the Continuation School and its Successful Solution in Germany. By R. H. Best and C. K. Ogden, B.A. Price 1s. net.

LIVINGSTONE, E. AND S., Edinburgh.
[illegible] Diplomas of the Royal [illegible] years. Price 1s. net. [illegible] s of the Royal College [illegible] sicians and Surgeons, [illegible]

LEWIS, H. K., London.
The Road to a Healthy Old Age. Essays Lay and Medical. By Thomas Bodley Scott. Price 2s. 6d. net.

MALOINE, A., Paris.
Principes d'Anacousie (Rééducation Auditive). Par A. Zünd-Burguet, Préface du Professeur M. C. Gariel.

Appointments.

Suc[illegible] lic Institutions, [illegible] is column, are [illegible] ed to the Sub- [illegible] orning of each [illegible]

BANISTER, J. BRIGHT, M.D. Cantab., M.R.C.P. Lond., F.R.C.S. Edin., *has been appointed Surgeon to Out-patients at the Chelsea Hospital for Women.*

BELL, J. T., M.B., B.Ch. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the High [illegible]

[illegible] smith, W.

WALSH, J., has been appointed Medical Officer to the Midleton Union [illegible]

[illegible] Univ. Irel., L.M. [illegible] Superintendent of [illegible]

[illegible] S. Eng., has been [illegible] *for Women.*

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per [illegible] with board and residence.

BAT[illegible]

BEI[illegible]

BIR[illegible]

BIR[illegible] attendance.

BIRMINGHAM, YARDLEY [illegible] CENTRE, Broad stre[illegible]

[illegible] Surgeon.

[illegible] Assistant [illegible] m, with [illegible]

[illegible] Officer as House Physic[illegible] ensuing six m[illegible] respectively.

CATERHAM ASYL[illegible] Officer. Sala[illegible]

CENTRAL LONDON [illegible] Assistant Surgeon.

CHARING CROSS HOSPITAL.—Obstetric Registrar.

CHELSEA HOSPITAL FOR WOMEN, Fulham road, S.W.—Registrar. Salary £40 per annum.

Cheshire Education Committee.—Fourth Assistant to the Chief School Medical Officer. Salary £350 per annum.

Chester General Infirmary.—House Physician. Salary £90 per annum, with residence and maintenance.

City of Westminster Union Infirmary, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £130 per annum, with board, residence, and washing

County of London, The London County Council.—Ten Temporary Medical Assistants in Public Health Department. Salary £400 per annum each. Also Twelve Quarter-time School Doctors. Salary £132 per annum each.

Coventry Education Committee.—School Dentist. Salary £300 per annum.

Derby County Asylum, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

Dewsbury and District General Infirmary, New Department for the Eye, Ear, Nose, and Throat.—Honorary Surgeon.

Dorchester, Dorset County Hospital.—House Surgeon, unmarried. Salary £125 per annum, with residence, board, and laundry.

Durban Municipality.—Assistant Medical Officer of Health. Salary £600 per annum.

East London Hospital for Children and Dispensary for Women, Shadwell, E.—Medical Officer to Casualty Department for six months. Salary at rate of £100 per annum, with luncheon and tea. Also House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, laundry, &c.

Exeter, Royal Devon and Exeter Hospital.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

Farringdon General Dispensary and Lying-in Charity, 17, Bartlett's-buildings, Holborn Circus, E.C.—Resident Medical Officer. *Salary £100* per annum, with rooms, attendance, fire, and lighting.

Folkestone, Royal Victoria Hospital.—Resident House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

Gloucester, Barnwood House Hospital for Mental Diseases.—Second Assistant Medical Officer. Salary £250 per annum, with board, &c.

Greenwich, Dreadnought Hospital.—Medical Registrar. Salary £100 per annum, with luncheon. Also Assistant Physician.

Halifax Royal Infirmary.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

Hampstead and North-West London Hospital.—Clinical Assistants at Out-patients' Department, Bayham-street, for six months.

Hospital for Epilepsy and Paralysis, Maida Vale, W.—Pathologist. Salary £25.

Huntingdonshire County Council.—Assistant County Medical Officer and Assistant School Medical Officer (female). Salary £250 per annum.

Infectious Hospitals Service of Metropolitan Asylums Board.—Junior Assistant Medical Officers, unmarried. Salary £180 per annum, with board, lodging, and washing.

King Edward VII.'s Sanatorium, Midhurst, Sussex.—First Assistant Medical Officer. Salary £200 per annum, with board, lodging, and attendance.

Lancashire County Council and County Borough of Bury Joint Committee, Bury.—Joint Tuberculosis Officer. Salary £400 per annum.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry. Also Honorary Pathologist.

Leeds University.—Demonstrator in Bacteriology. Salary £250 per annum.

Leicestershire Education Committee.—Assistant School Medical Officer. Salary £250 per annum.

London Homœopathic Hospital, Great Ormond-street and Queen-square, Bloomsbury, W.C.—Assistant Pathologist. Salary £50 per annum.

Liverpool Infirmary for Children.—Two Resident House Physicians and Resident House Surgeon for six months. Salary £30 in each case, with board and lodging.

Liverpool, Royal Southern Hospital.—Three House Surgeons and Two House Physicians for six months. Salary at rate of £60 per annum, with board and residence.

London Lock Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

London Temperance Hospital, Hampstead-road, N.W.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester Children's Hospital, Pendlebury, near Manchester.—*Resident Medical Officer, unmarried. Salary at rate of £100* per annum.

Manchester Children's Hospital (Out-patients' Department), Gartside-street, Manchester.—Assistant Medical Officer for six months. Salary £100 per annum.

Manchester Hospital for Consumption and Diseases of the Throat and Chest, Crossley Sanatorium, Delamere Forest, Cheshire.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

Manchester Royal Infirmary.—Medical Officer for Out-patients and Accidents at Central Branch for six months. Salary at rate of £100 per annum, with board and residence.

Margate, Royal Sea-Bathing Hospital for Surgical Tuberculosis.—Resident Surgeon. Salary at rate of £150 per annum for first six months, and £200 per annum for second six months, with board, residence, and laundry.

Newcastle-upon-Tyne, Hospital for Sick Children.—Honorary Assistant Physician.

Nottingham, City of.—Resident Assistant Medical Officer, unmarried, for Bagthorpe Institution and Infirmary for six months. Salary at rate of £165 per annum, with apartments, &c.

Newport (Mon.), Royal Gwent Hospital.—Resident Medical Officer. *Salary at rate of £100 per annum, with board, residence, and laundry.*

Oldham Royal Infirmary.—Third House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and laundry.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

Rochdale Infirmary.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Royal Australian Navy.—Two Surgeons. Rates of pay on entry £387 16*s.* 3*d.* per annum.

Royal Ear Hospital, Soho.—Honorary Assistant Administrator of Anæsthetics.

Royal Free Hospital, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Honorary Anæsthetist.

Royal Naval Medical Service.—Twenty-five Appointments.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—Pathologist and Bacteriologist for three days a week.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

St. Marylebone Infirmary, Rackham-street, Notting Hill, W.—Third Assistant Medical Officer, unmarried, for six months. Salary £50, with apartments, rations, and washing.

Salford Royal Hospital.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, lodging, and washing.

Scarborough Hospital and Dispensary.—Senior House Surgeon. *Salary £100* per annum, *with board, residence, &c. Also Junior* House Surgeon. Salary £80 per annum, with board, residence, &c.

Sheffield Royal Infirmary.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with *board, lodging,* and washing.

Stockport Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

University College Hospital, Gower-street, London, W.C.—Assistant Surgeon.

Ventnor, Royal National Hospital for Consumption and Diseases of the Chest on the Separate Principle.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

Warrington, Lancashire County Asylum, Winwick.—Pathologist and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

West African Medical Staff.—A number of Appointments. Salary £400 per annum.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Dental Surgeon.

Western General Dispensary, Marylebone-road, N.W.—Honorary Radiographer.

West Ham and Eastern General Hospital, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

West London Hospital, Hammersmith-road, W.—Two House Physicians, Three House Surgeons, and Resident Casualty Officer for six months. Board, lodging, and laundry allowance provided.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Salary at rate of £125 per annum, with board, rooms, and laundry.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

Births; Marriages, and Deaths.

BIRTHS.

Cooper.—On Feb. 18th, at Lansdowne, Hampton, Middlesex, the wife of Harold Merriman Cooper, M.B., of a daughter.

MARRIAGES.

Flumerfelt—Jefferson.—At Victoria, B.C., on Jan. 17th, 1914, Gertrude Flumerfelt, M.R.C.S., L.R.C.P., daughter of Mr. and Mrs. Flumerfelt, of Ruhebuhne, Victoria, B.C., to Geoffrey Jefferson, M.S., F.R.C.S., elder son of Dr. and Mrs. Arthur Jefferson, of Rochdale, Lancs. (Dr. Gertrude Flumerfelt retains her own name and will practise under it.)

Gilliatt—Kann.—On Feb. 24th, at Weybridge, William Gilliatt, M.S., F.R.C.S., of 58a, Wimpole-street, W., to Anne Louise, eldest daughter of John Kann, of Lyne Hill House, Chertsey, Surrey.

DEATHS.

Fenoulhet.—On Feb. 16th, at Durban Hospital, Natal, South Africa, Dr. James Peter Fenoulhet.

Gardner.—On Feb. 15th, at Earl's Court-road, John Twiname Gardner, *M.R.C.S., L.R.C.P., L.S.A., aged 59 years.*

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

TUBERCULOSIS IN BRITISH GUIANA.

ACCORDING to the seventh annual report of the British Guiana Society for the Prevention and Treatment of Tuberculosis, the society's work in that district is bearing good fruit. A new memorial dispensary to King Edward VII. I
Government aid
measures recom
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reduction in the past two years, the death-rate from phthisis per 1000 persons living from January to September, 1913, for the whole colony being 1·3. Gratuitous examination of all persons, irrespective of race, creed, colour, or financial status, has been afforded and attendance and medicine supplied free to those suffering from tuberculosis. The number of persons attending the dispensary has progressively increased from 828 in 1908 to 1277 in 1913, but the percentage found to be tuberculous has decreased from 14·5 in 1908 to 8·8 in 1913. The services of the lady visitors are highly commended.

MEDICAL CERTIFICATES FOR SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—Can any of your readers give me particulars of the ca
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threatening to issue a summons. The parents have written to the education authority saying the child is seriously ill with endocarditis, but no notice is taken of the letter. I
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e took the same view
he parents.

I am, Sir, yours faithfully,
Feb. 10th, 1914. E. D.

*** A test case, apparently the one referred to, was recorded in THE LANCET of March 9th, 1912, p. 685.—ED. L.

SCHOOL MEDICAL OFFICERS AND THE D.P.H.

To the Editor of THE LANCET.

SIR,—No diploma exists which is an absolute guarantee that a man is fitted to act as medical officer to schools. I submit tha
should mal
usefulness
candidates

ie subjects which
with credit and
manded from all

I am, Sir, yours faithfully,
J. C. MCWALTER, M.B. Dub., M.D. Dunelm.
Dublin, Feb. 23rd, 1914.

"THE BISMUTH MEAL."

IN an article in [illegible] giving a historical

opaque meal was rendered
e organs surrounding the

associated with a duodenal new growth, the examination being made 1½ hours after an opaque meal containing 6 grammes of bismuth. He also made many experiments on himself with various quantities of bismuth varying from 20 to 50 grammes, the results being studied on a fluorescent screen. Since 1897 he has returned to the subject by means of papers and lectures. It was not until the year 1905 that this method of examination

esearches,
"Rieder's
protest.

AN IMPROVED PELVIMETER.

To the Editor of THE LANCET.

SIR,—Referring to the instrument described in your issue of Feb. 21st by Dr. Gordon Copeland, we beg to state that

is a very nice pattern on the market known as Conyer's.

We are, Sir, yours faithfully,
ALLEN AND HANBURYS, LIMITED
(HENRY LEWIS, *Manager*).
Wigmore-street, W., Feb. 24th, 1914.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY: SUB SECTION OF ORTHOPÆDICS (Hon. Secretaries—A. S. Blundell Bankart, E. Rock Carling): at *4.30* P.M.

the Shoulder-joint. (4) Ankylosis of the Temporo-maxillary Joint.

Mr. Laming Evans. Case of Scoliosis associated with Myopathic Paralysis.

Dr. Ledingham: A Problem in Bacterial Variation.

Dr. Arkwright: Observations on Cat-distemper (so-called Show-fever).

Dr. Schütze. Cataphoresis Experiments with Leucocytes.

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—[illegible]: at 5 P.M.

SECTION OF NEUROLOGY,
SECTION OF OPHTHALMOLOGY, and } Combined Meeting.
SECTION OF OTOLOGY. at 8.30 P.M.

Discussion:

On Nystagmus (will be re opened by Dr. Llewellyn, and Dr. Dan McKenzie, Dr. Wilfred Harris, Dr. S. A. K. Wilson, and others will speak).

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 5 P.M.

Epidiascope Demonstration:

Dr. Louis W. Sambon: Cutaneous Diseases Prevalent in the West Indies.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure): at 5 30 P.M.

Paper:

Dr. J. Barnes Burt (Buxton). The Production of Osteophytes and Exostoses in *Chronic Gout* and *Arthritis Deformans* (illustrated by X Ray Photographs and Pathological Specimens).

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Specimens:

Dr. T. G. Stevens: Cast from the Unimpregnated Horn of a Uterus Didelphys.

Dr. Cuthbert Lockyer: Multiple Myomectomy at the Fifth Month of Pregnancy followed by Labour at Term.

Dr. Victor Bonney: (1) An Ovarian Dermoid Cyst Expelled through the Rectum during Labour; (2) A Rare Case of Hernia into the Umbilical Cord; (3) Simultaneous Carcinomatous Growths in the Body of the Uterus and in the Cervix.

Dr. Drummond Maxwell: *(1) Fibroid Uterus Removed in the* Third Stage of Labour; (2) Defective Ossification of an Infant's Head.

Short Communications:

Dr. Herbert Williamson and Dr. Charles Noon: An Unusual Case of Chorionepithelioma (from the Gynæcological Department of St. Bartholomew's Hospital).

Dr. J. Barris: The Treatment of Pregnancy complicated by Morbus Cordis by Means of Cæsarean Section under Spinal Anæsthesia.

Paper:

Dr. T. W. Eden: A Case of Superior Recto-vaginal Fistula dealt with by an Abdominal Operation after Preliminary Colostomy, with Remarks on the Operative Treatment of this Condition.

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—E. A. Peters, Cecil I. Graham): at 5 P.M.

Cases:

Will be shown by Mr. H. J. Davis, Mr. W. Stuart-Low, and others.

(The set discussion on, and exhibition of cases illustrating, Intranasal Treatment of Frontal Sinusitis will be held on April 3rd. The discussion will be opened by Dr. Watson-Williams and Mr. Herbert Tilley.)

SECTION OF ANÆSTHETICS (Hon. Secretaries—H. E. G. Boyle, Cecil Hughes): at 8.30 P.M.

Discussion:

On Posture in Relation to General Anæsthesia (opened by Dr. W. J. McCardie).

Sir Frederic Hewitt, M.V.O., Mr. E. B. Waggett, Mr. Douglas Harmer, Mr. Ivor Back, Mr. Harold Barwell, and others, will take part.

MEDICAL SOCIETY OF LONDON, Whitehall Rooms, Hotel Metropole, W.C.

WEDNESDAY.—7.30 P.M., Anniversary Dinner.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Address:—Dr. A. E. Giles: Meditations Based on 1000 Abdominal Operations at the Prince of Wales's Hospital.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8.30 P.M., Paper:—Dr. H. Campbell: The Treatment of Syphilis of the Central Nervous System.

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

SATURDAY.—8.30 P.M., Paper:—Deputy-Surgeon-General A. G. Wildey: Surgical Experiences in the Treatment of—(1) Compound Fractures; (2) Ununited Fractures; (3) Streptococcal Cellulitis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Milroy Lecture:—Dr. F. Shufflebotham: The Hygienic Aspect of the Coal Mining Industry in the United Kingdom. (Lectures IV. and V.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Arris and Gale Lecture:—Dr. D. Waterston: The Development of the Heart in Man in Relation to its Functional Activity (illustrated by reconstruction models and by microscopic and lantern projections).

WEDNESDAY, AND FRIDAY.—5 P.M., Arris and Gale Lectures:—Dr. F. Wood Jones: The Morphology of the External Genitalia of the Mammals. (Lectures I. and II.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. C. Semon: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. M. Latham: Diagnosis of Tuberculosis in the Absence of Tubercle Bacilli.

TUESDAY.—4 P.M., Dr. P. Parkinson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D'Oyly Grange: Eczema and its Relations.

WEDNESDAY.—4 P.M., Sir A. Pearce Gould, K.C.V.O.: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. J. Wethered: The Significance and Indication of the Temperature Chart in Pulmonary Tuberculosis.

THURSDAY.—4 P.M., Dr. K. Wilson: Clinique (Medical). 5.15 P.M., Lantern Demonstration:—Dr. A. G. Buchanan: Treatment by Psychotherapy and Other Means of Alcohol and Drug Habits.

FRIDAY.—4 P.M., Mr. W. Stuart-Low: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Armour: Difficulties in Abdominal Diagnosis and Treatment.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. [illegible] stration of Cases in Wards. [illegible] of Fractures, &c. 2 P.M., [illegible] Mr. Baldwin: Operations. [illegible] se, and Ear. Dr. Pernet: [illegible]—Mr. Armour: Difficulties in Abdominal Diagnosis and Treatment.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. [illegible] Harman: Diseases of the Eye. Dr. S[illegible] 5 P.M., Lecture:—Mr. Armour: [illegible] Diagnosis and Treatment.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: *Gynæcological Demonstration.* 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., *Medical and Surgical Clinics.* X Rays. Mr. Armour: *Operations.* 2.30 P.M., Mr. Dunn: *Diseases of the Eye.* 5 P.M. Lecture:—Dr. G. Stewart: Cases of Nervous Diseases.

FRIDAY.—10 A.M., *Dr. Robinson:* Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. G. Stewart: Cases of Nervous Diseases.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—*Clinics:—10.30* A.M., Sur[illegible] Gillespie). 2.30 P.M., Medical Out-[illegible] *Nose, Throat, and Ear (Mr. H.* [illegible] In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. Banister). X Rays and Electrical Methods. 3 P.M., Demonstration of Selected Medical Cases (Dr. Chappel). 3.30 P.M., Medical In-patient (Dr. Whiting). 4.15 P.M., Demonstration of Selected Skin Cases (Dr. Meachen).

WEDNESDAY.—Clinics:—2 P.M., Throat [illegible] 2.30 P.M., Children's Out-patient (D[illegible] (Dr. G. N. Meachen); Eye (Mr. R. [illegible] *Operations (Mr. Brooks).*

THURSDAY.—2.30 P.M., *Gynæcological Operations (Dr. A. E. Giles).* Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); [illegible]

FRIDAY.—2.30 P.M., [illegible] (Dr. A. G. Aul[illegible] Brooks). 3 P.M., [illegible]

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on the Neuroses and Psychoses of Children:—

MONDAY.—4.15 P.M., Dr. F. Warner: *Training, Mental and Physical—Mental Hygiene.*

Course of Lectures on Syphilology:—

TUESDAY, WEDNESDAY, AND FRIDAY.—4.15 P.M., Mr. J. Hutchinson: The Bones, Joints, Testis, Tongue, &c.

Lectures in Advanced Medical Subjects:—

WEDNESDAY—4.30 P.M., Dr. H. L. Tidy: The Pathological Excretion of Nitrogen by the Skin and the Resulting Changes in the Urine.

MIDDLESEX HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), Berners-street, W.

FRIDAY.—5.15 P.M., Dr. H. Beckton: The Action of Radium upon Animal Cells.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. H. S. Hartley: The Treatment of Febrile Cases of Pulmonary *Tuberculosis.*

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City road, E.C.

FRIDAY.—5 P.M., *Lecture-Demonstration:*—Dr. A. Jordan: Diagnosis of Pulmonary Tuberculosis by the Roentgen Rays.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected *Cases.*

THURSDAY.—5.15 P.M., Clinical Lecture.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. R. Russell: Hemiplegia.

FRIDAY.—3.30 P.M., Lecture:—Dr. R. Russell: *Clinical Cases.*

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

FRIDAY.—4 P.M., Lecture Demonstration:—Dr. S. Owen: Clinical Significance of Enlargements of the Liver and Spleen in Infancy and Childhood.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.

Post-Graduate Lectures on the Diagnosis and Treatment of Cancer:—

WEDNESDAY.—5 P.M., Mr. Cunning: Tumours of Thyroid Gland.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. C. R. Kempster: X Rays. Other Skin Affections.

THURSDAY.—6 P.M., Dr. M. Dockrell: Ulerythema—I., Aphryogenes; II., Centrifugum; III., Sycosiformis.

LISTE[illegible] (UNIVERSITY OF [illegible]

T[illegible] The Protozoa [illegible]

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers, Medical Practitioners, &c.—

FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture VIII.:—Dr. C. Riviere: Treatment—Specific; Tuberculin.

MANCHESTER HOSPITALS POST-GRADUATE CLINIC.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Dr. C. E. Lea: Palpitation.

W[illegible] Milligan: [illegible]

[illegible] Cases by [illegible]

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. T. M. Bride. Retinitis.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: The Varieties of Contracted Pelvis (continued). 11 A.M. Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: The Treatment of the Common Forms of Contracted Pelvis. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: The Operative Treatment of Backward Displacement of the Uterus (continued). 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German *Orthopædic Society*.

„ 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage. Bruxelles.)

„ 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.

„ 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.

„ 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.

„ 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.

June 18th–24th (London, Church House, Westminster).—International Conference on the Blind.

July 6th–11th (Blackpool).—Twenty ninth Congress of the Royal Sanitary Institute.

„ 8th–10th (Oxford).—Ophthalmological Congress.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Feb. 25th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb.	Remarks
Feb. 19	29 48	W.	0 06	57	48	36	39	41	Cloudy
„ 20	29 64	S.W.	0 01	75	51	40	40	41	Fine
„ 21	29·26	S.W.	0·11	55	47	41	41	43	Fine
„ 22	28 59	S.	0 52	77	50	41	40	42	Cloudy
„ 23	29 05	S.W.	...	81	51	38	39	41	Fine
„ 24	29 33	S.E.	...	73	50	40	40	40	Foggy
„ 25	29 79	N.E.	...	65	44	36	36	37	Overcast

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1913 were given in THE LANCET of Dec. 27th, 1913.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1913 are now ready. Bound in cloth, gilt lettered, price 16*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

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The following journals, magazines, &c., have been received:—St. George's Hospital Gazette, St. Thomas's Hospital Gazette, Cleveland Medical Journal, Canadian Medical Association Journal, Nordisk Medicinskt Arkiv, Archiv für Schiffs- und Tropen-Hygiene, Birmingham Medical Review, Journal of Pathology and Bacteriology, Canadian Practitioner and Review, Indian Medical Gazette, Archives de Médecine et de Pharmacie Militaires, British Journal of Dermatology, American Journal of Obstetrics, Brain, Journal of Obstetrics and Gynæcology of the British Empire, Dublin Journal of Medical Science.

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A Lecture
ON
GLYCOSURIA AND THE ALBUMINURIA OF ADOLESCENTS.

Delivered before the Brighton and Sussex Medico-Chirurgical Society on Feb. 5th, 1914,

BY SIR JAMES F. GOODHART, BART.,
M.D. ABERD., F.R.C.P. LOND.,
CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

GLYCOSURIA.

MR. PRESIDENT AND GENTLEMEN,—Some months ago there appeared what was to me a very interesting paper[1] by Dr. D. M. Mackay, of Hull, upon Ocular Diseases occurring in Association with Diabetes Mellitus. In it I read: "There are serious affections of the *retina* which appear in *diabetes* ...... and it is this group of ocular complications that give gravity to the prognosis of diabetes." Again: "Diabetes is very frequently associated with the presence of arterio-sclerosis." I was alert at once because a responsive and critical chord was touched, which is equivalent to saying that I did not altogether agree with the writer's conclusions.

Forms and Course of Glycosuria.

We all know that sugar in the urine in young people means diabetes for the most part, and that it is a very serious matter; but we also know that a saccharine urine in those of advancing years by no means necessarily means diabetes, or, at any rate, that it is far less likely to be of the grave import that youth carries with it. There is, indeed, a sort of agreement abroad to restrict the term diabetes to the grave cases such as are for the most part found in the first half of life, and rather to designate as glycosuria the condition of later years. Nevertheless, I think the affinities of this latter form of malady are not so well recognised as they should be, nor do I think that the natural course of this form of glycosuria is sufficiently apprehended by many.

It hardly needs saying that a true diabetes, commencing as such, with all the classical symptoms, may, under treatment, carry on for many years, and even into the declining decades of existence. I am even strongly inclined to believe that all glycosurias, no matter at what time of life they occur, have something in common—an epileptiform or migrainous paroxysmalism. Therefore, whenever I find sugar in the urine of the comparatively young, even in traces, and further know that it has gone, I am never quite happy about it, for the glycosuria of early diabetes is frequently intermittent, and there is an inveteracy about the glycosuric habit that suggests the appropriateness of the term "epileptiform," for who can tell when it will come or when it has gone? Trousseau applied to angina pectoris, very fitly as I think, the term epileptiform neuralgia, and I borrow this comparison as being applicable to glycosuria, as well as to many another paroxysmal neurosis. But clinically there are two groups of the glycosuric, and you will understand me when I say we will exclude the diabetic and take such a case as the following.

Illustrative Cases.

A middle-aged man of, say, 50 to 60, in whom, on examining his urine, sugar is found. What is the environment, shall I say, of that condition? How has it come? What does it portend? How are you going to deal with it? I know, I say, that a large number of such people are said to be diabetic, and are treated with all the rigour of dietetic principle that such a state is supposed to demand. I want you all to agree with me that such cases in being so handled have got into the wrong pigeon-hole. The clinical history of such cases as this is usually: that the patient has been overworked; worried; has overrun his rest and holidays; a wife or child has been ill; politicians have been restless; nations have been spoiling for war; there have been panics, or nothing doing on the Exchange; affairs are not what they should be; and so on. Thus he has been worried, getting no exercise and ill-digesting his food, and not being quite well; often being giddy, headachy, or liverish; he goes to his doctor, who finds some sugar in his urine. It may be that a little dieting, a tonic, a holiday—and the sugar goes at once, but it will often go only to come again from time to time, and may even in the end have come to stay. But, as I think, the more important feature of these cases is: that in addition to the sugar you will perhaps find a trace of albumin; and then, on examining the pulse, the blood pressure is found to be excessive; in many a case, also, on listening to the heart sounds, there is evidence of labour and stress in their quality. Many of these people may have no albumin for some time, but if they be watched it will ultimately be there. Moreover, there is a tendency in most of them for the sugar to diminish in the course of years, and for the albumin to increase and to become the dominant feature in the case.

In 1901 I became acquainted with a lady, 74 years of age, because of an attack of profuse hæmaturia. She had recently lost her husband and was melancholic in a mild fashion. At that time I think there was no other disease, and we supposed the bleeding to be due to the passage of uric acid crystals. Not long after she developed glycosuria, the urine reaching a specific gravity of 1040. The sugar remained for several years, and before long albumin appeared in the urine also. Some three years before her death cataract developed, and one day she had an attack of giddiness and what was said to be a slight stroke, and her pulse, previously about 80, dropped to 40. She did not suffer in health materially from this condition, but the pulse never recovered its former rate. As time went on all the sugar disappeared from the urine, the albumin gradually increased to a large quantity, and she died from uræmia seven years after her attack of hæmaturia.

Retinal Changes.

So commonly have I seen some similar course of events that it has been an *obiter dictum* with me for many years that these people are not in danger so much from their glycosuria as such—with which alone indeed they may live many years, or to old age—as they are from the slowly maturing chronic Bright's disease, or what is now called arterial sclerosis. Now *these* are the cases that exhibit retinal changes with their glycosuria. With classical diabetes cataract of course occurs, but I am not familiar with retinal changes of any moment, and when I looked at Dr. Mackay's cases my opinion was confirmed. For example, the first case that he gives is that of "a man aged 66. In addition to incipient cataract in each lens there were in both retinæ many white patches, most marked round the macular regions, and in the right eye one or two minute hæmorrhages. After treatment by his own doctor for diabetes for four months he had a large fresh hæmorrhage in one of his eyes. In this case there was no albumin present, and therefore the condition was attributed to the sugar which was recognised for the first time after the retinitis had been detected." I doubt if this inference is warranted. Dr. Mackay's second case is a man of 62, who had been on strict diabetic diet for many years. He had hæmorrhages both near the disc and in other parts of the fundi, and white opacities. In this case the patient had had a considerable trace of albumin in his urine for six months in addition to the sugar. Another case is that of a man, age not stated, who gave a history of a stroke followed by a defect in his sight, apparently due to a cerebral lesion associated with glycosuria, and another in a man of 75 whose glycosuria had been present for years, but his doctor thought his diet had been too rigidly controlled and that the man's arteries had suffered in consequence.

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[1] The Practitioner, May, 1913.

"*Gouty*" *Glycosuria.*

Gouty has this glycosuria of middle and old age been quite fitly called, and I repeat I do not doubt that many, perhaps all of you, are individually quite familiar with what I am saying, but so far as I remember Dr. Mitchell Bruce it is who, in his Lumleian lectures at the Royal College of Physicians of London, has most recently singled out these cases as a distinct clinical group, and lucidly dwells upon their importance. The syndrome, as it is now the fashion to say, is a very common one, it is distinct, and consequently an important one as regards its treatment. And here is the point. It is not necessary, it is probably not advisable to go for the sugar as sugar. I have known several such who were remarkably fond of sugar, and who, altogether against advice, would not, perhaps could not, restrain their love of lollypops, but who seemed to take no harm from their indulgence. Others there are who seem to derive great benefit from the relaxation of extreme regulations, and there are surely plenty of others whose sugar varies much from day to day, but without one being able to say that the variation depends upon the ingestion of the saccharine material that has preceded it.

Imperfect Metabolism.

I have said that I like the term "gouty" for this variety of glycosuria for the reason that it indicates correctly the tendency of the condition towards the gouty or granular kidney, or rather that state of the circulation with which a granular kidney is associated. What may be the relation between the sugar and the goutiness I must leave to the biochemist to decide. All I am able to say is that clinically there is an individuality that in early adult age may pass phosphates in quantity; to that will succeed a state of uric acid formation, in its early stages often combined with glycosuria; to this albuminuria and high blood pressure are prone to succeed; and the end of such is likely to be that of chronic Bright's disease. These cases then need to be treated with this probable course in view. I like to dwell upon these permutations of imperfect metabolism (as *I suppose they are*) in the urine, for it seems that on the one hand we make too much of them and on the other too little. We make too much of them when we regard their mere presence as that of a dangerous toxin, and immediately set to work to exorcise it by every possible means in our power; and so lose sight of the indications that such a presence gives of the individuality of the subject; we make too little of them when, exclusively directing our attention to our intakes as being the sources from which they emerge, we lose sight of them as *indications* of the improper working of the machine itself. It is the machine that is at fault in too many cases, not the fuel that is supplied to it, and there is a need not to damp down the fire but to set about to oil the various parts. Uric acid phosphaturia, oxaluria, glycosuria are, each and all, much more a question of the working of the machine than of the stuff that is put inside us, yet it seems impossible to get this into our heads or those of our patients, and we go on year after year on the same old round of uric acid, uric acid, uric acid. Glycosuria, as more obviously clothed in sombre garb, has especially fixed our attention, but I always wonder that phosphaturia and oxaluria have been so comparatively neglected, for I suspect that they are equally and fundamentally as instructive if they send us to the machinery, to our joints and harness, instead of being satisfied with cutting off our rhubarb and our spinach.

Treatment.

I cannot go into detail upon the treatment of such cases save to express my belief on two interesting questions: 1. That we have gone wrong these many years to my thinking in our slavish acceptation of the dictum of authority that the toxins of the imperfect metabolism of meat foods condition gout; as I will not allow sugar as sugar to be a supreme cause of glycosuria, so neither will I allow proteids or purins to be the prime movers in arterial sclerosis. I would not like to fasten goutiness on to any one food, for I believe the machine is mostly at fault, but I pay more attention myself to the imperfect metabolism of an excess of carbohydrates in leading eventually to such "goutiness" or what not as this. Nor are these cases, on the other hand, to be treated by stock methods of reducing tension. You cannot reduce tension in any persistent fashion, and if you could you would ofttimes kill the patient. Again I say, what is needed is to get at the chemical conditions underlying and determining the excess of pressure, and this is probably some gradually evolved habit of the working of the machine as a whole. No one who has ever given any thought to the matter could possibly think it likely that five grains of this or that could materially change so complex a working as the human machine except it were powerful enough to bring about a *bouleversement*—a collapse, in fact. Croton oil or elaterium may do this temporarily if you wish it. I have heard that it can be managed by electricity, and it is of interest from this point of view to note that when I myself have noted unusually sudden changes and variations of blood pressure they have occurred in cases of cerebral disease, and I am inclined to think that excessive blood pressure in the peripheral vessels is mostly thus spasmodic or hypertonic in origin, and that arterial sclerosis is its late effect. So in attempting to reduce blood pressure there may be many things to consider. Some machines there are that are always *hypertonic*; their nervous discharge or control can only work that way. They are the equivalents of noisy, uneasily running cars, and such decay early by excessive wear and tear. The stress may show itself in any organ such as the heredity or the individuality of the organism may dictate. In one it may be the brain, in another the heart, in another the liver or the kidney.

I do not doubt that those who hold that high blood pressure is due to some toxic state of the juices are in part right, but the toxin can be as well produced by the imperfect working of the machine as by a direct product introduced from without, and thus it happens in so many cases that the mere restriction of diet—the elements of diet—has so little effect. If I want to reduce the blood pressure in any given case I think I can do it best in a crude sort of way by ordering an exclusive diet of skim milk, or even of water. But by an actual limitation of food such as this one reverses the wheels of the machine and its currents, the stores of nutrient material redundant in the tissues are thus brought into use, and waste products are reconverted to useful purposes. In common parlance, such methods are dreaded as weakening the system. So in a sense they do. One would not under such a course ask, or expect, of a man a full day's labour. No more would one ask it of one under the effects of a strong purge, which is the more commonly adopted method of treatment for high pressure, and which brings about something of the same conditions—viz., a diminution of supplies, and from the sudden flux, more or less of a state of collapse for the time, which is equivalent, perhaps temporarily more than equivalent, to the sensation of weakness. But by the purging plan the effect is merely temporary, and even at that tends to become more so when frequently repeated, and thus less effective in its action. An occasional week on water would I suspect do many of us good, more even than the biannual venesection that used of old to obtain, and I suspect teaches the moral as regards such cases as led up to the subject that the way to deal with them in the future will be to put them under the skilled observation of the biochemist in an institution, where their intakes and outputs may be critically examined and analysed, and their food carefully adjusted to the capacity of their organs.

ADOLESCENT ALBUMINURIA.

And now let me turn to adolescent albuminuria—another matter of biochemistry. I know equally little about it, and want to learn of you. I am inclined to speak of it now as the paroxysmal albuminuria of the young. It is not ill-coupled with glycosuria, for each is both paroxysmal and functional. I do not propose to discuss it systematically, for you are all well familiar with it. It is an albuminuria of more or less, sometimes of large quantity, found in boys and youths from any age up to 19 or 20, and may be in young men up to 24 or 25 occasionally. It is not known to be anything like so frequent in girls, but that may be because the urine in them is not so often examined, and the periodical function is also there to interfere with, perhaps even to prevent, its occurrence.

This form of albuminuria occurs, in my experience, preponderatingly in overgrown and weedy youths, and in those, at any rate, who have been growing rapidly, and I think, too, in the food bolter, but there are frequent exceptions. It may be present in many a one of whom it is hard to say there is any ill-health. It sometimes disappears almost as soon as it is noticed, but more characteristically I think it comes and goes over a long period, maybe of months or years. And in such cases it is difficult to say that habits of life make any difference. In one case that I remember, as he was going to the seaside, a boy aged about 10 years was put under the medical care of Mr. W. M. Burgess, of Frinton, and allowed to bathe, and Mr. Burgess made careful observations on the urine. No appreciable difference could be noticed in the albuminuria one way or the other.

The quantity of albumin passed at any one time varies; usually it is not much, but it may amount to a very large precipitate. But the cardinal characteristic of the affection is that at one time of day—usually the first thing in the morning—there is only a trace or none, at another there may be a large quantity. One other feature I will mention, although I shall have to speak of it again, is that invariably in these cases a precipitate of globulin is obtained from the urine by adding a drop or two of strong acetic acid. This condition has been described at one time and another as cyclic, physiological, adolescent, or postural, albuminuria; and, given an undoubted case of the kind, it seems certain that it has no detrimental influence upon life, and there is no reason why it should penalise its subjects in the matter of work that they may be allowed to undertake. Yet it does so on all hands. No one in its presence will be accepted for any of the public services or large private banks, and no life will be accepted at any insurance office either. Albuminuria of any kind is still always looked at askance, as threatening Bright's disease, but in this case it is not so, the medical officers of all the great public schools are quite familiar with it, and know well that it passes off in due time and leaves no trace behind it. There must be any amount of experience to confirm this opinion.

Only a few weeks ago I saw a strong-looking young man aged 17 or so from one of our public schools, whose urine had been found to be albuminous by the doctor of his school, and quite rightly, as I am sure, passed by as unimportant. The boy's father unfortunately obtained other opinions, and then the risk of nephritis came into being, and the continuation of his school life and all his future became seriously in question. The case had, however, all the features of an adolescent albuminuria, and I am quite sure that it was right to let the youth pursue his school course, under the eye of the doctor, without interfering with it in any way.

Causation.

The condition is a most interesting one—mark I abstain from calling it a disease, and think of it as you will, it is difficult to say much that is positive as to the reason for its occurrence. It has not even found its way into the letter-box of oral sepsis. It has been called postural, for instance; because the albuminuria is often absent from the urine in the early morning, and only comes after the boy has risen from his bed. But I cannot think that the mere tipping a boy from his bed on to his feet can be sufficient to explain the appearance of albumin or justify the term postural. It is too mechanical to be probable. I cannot think that the upright posture has that to add to its many other present-day supposed delinquencies. Believing, as I do, that the clinical facts incontestably prove its harmless nature, they require, it seems to me, some physiological explanation, not a morbid one.

Now there are many relief or safety-valve processes in the body. A mitral murmur, for example, may be the result of disease or of a mere physiological relaxation in healthy tissues. The processes of thought are often curiously insane twixt sleeping and waking, and for many of us the darkest hour is just before the dawn. Yet not from disease, but from physiological inexactitude, want of sufficiently rapid accommodation, weakness as I have before allowed it to be in relation to food. And surely the explanation lies in this direction. It is in some way a metabolic matter. We have got our ideas of albuminuria too stereotyped into meaning inflammatory or at any rate congestive changes that way inclined, in the kidney. But I can recall to mind, and so can many of you, when there has been a sudden flux of large quantities of albumin which, suddenly coming, has as suddenly gone. Some of the puerperal albuminurias are cases in point. I have known such a flux replaced by one of uric acid, and as one thinks of such things the chemist in his laboratory comes to mind with his instantaneous precipitates and as sudden re-solutions; the passage of gases through his solutions and the rapid conversions and reconversions possible thereby, and methinks still to pin one's thoughts down solely to such processes as congestion and inflammation is to misread the whole trend of modern discovery and to confine ourselves somewhat obstinately to the dark and dawning ages of pathology. Even degeneration may savour too much of a necessarily structural change; but has it never struck you how much there is in renal change sometimes by way of rapidity, sometimes the reverse, that savours more of physiological effort, physiological retard, than of the cellular disturbances of disease?

Points in Diagnosis.

In this physiological albuminuria, this borderland perhaps, between natural function and disease, the amount passed is at times excessive, and that again and again in the same patient. Yet on any one day such a quantity would be present, say, at 11 A.M. and gone all but the barest trace at bedtime. I have known more than one such case treated for months as a bad case of renal nephritis, because the amount of albumin had so staggered the observer's judgment that no attempt had been made to gain further information, or do other than accept a too prevalent idea. Yet it is obvious that the mere fact of such a variation in the amount of albumin within a very few hours is sufficient to put the case out of the category or ordinary nephritis.

In every case of albuminuria in the young the first thing to do is to have specimens of urine for examination taken at intervals during the day and for several days consecutively. I always ask for four specimens: before rising, at 11 A.M., 3 P.M., and at bedtime. If in these several specimens any marked variation in the quantity is shown, from much to none, it is pretty certainly a case of the kind I am discussing. I like to see the albumin entirely absent from the urine at some time in the 24 hours, and then I feel sure of the diagnosis, but it by no means always vanishes entirely. Considerable variation within a few hours is the essential point, for this is obviously a feature incompatible, at any rate, with a pronounced organic disease. It is, of course, necessary to take all precautions, and to ascertain the absence of renal elements in the urine, other than casts of hyaline character, which, whatever be their meaning, from centrifugalised urine have seldom anything sinister in them.

There is also that other point, in the matter of diagnosis, that I wish to make, because it has been decidedly helpful to me, and may possibly be of importance from an etiological point of view. The albumin in these cases is, as in Bright's disease, largely a serum albumin—that is, an albumin that is precipitated on adding strong nitric acid to the cold urine and on boiling; but whereas in that disease it is almost invariably only serum albumin—I speak as a child in the matter of chemistry—in this albuminuria of the young there is as invariably nucleo-albumin or globulin as well. That is to say, on taking some of the urine and adding to it a drop of strong acetic acid there will come at the bottom of the tube a definite slight opalescence or milkiness from the precipitation of globulin. This precipitate mostly needs to be waited for a few seconds, and even then looked for, as it is generally but slight, but it is there, and sometimes it is there in abundance. I have used this test now hundreds of times, and whereas the reaction is quite uncommon in renal disease, it is seldom absent in physiological albuminuria. As perhaps weakening the value and significance of the test, but at the same time confirming the statement I have made, if it occur at all in anything approximating to renal inflammation, I think it is in the congestive conditions consequent upon back pressure and stasis, but even so its significance would seem to be that the condition precedent was not one of any advanced structural change. Nor does this admission weaken my hold upon the conviction that if in any young person, male or female, but possibly much more in males than females, you have to do with an albuminuria that shows great diurnal variations in quantity, is attended by no microscopical elements of renal disease, and is associated with a precipitate of globulin, that case is unassociated with any renal change; it will surely pass away as age advances, it is not likely to lead to renal disease, and it ought not to be allowed to penalise the constitution of anyone. I may add that the precipitation of globulin was abundant in the case already mentioned where there was a difference of opinion, and had much influence in fortifying me.

Comparison with Other Conditions.

The condition is a most perplexing one to unravel, but for that reason it is all the more interesting. In considering it, it may be as well to remember that there are other states that manifest themselves in very similar manner. The tides of urates, phosphates, oxalates, uric acid, and sugar each have resemblances. I have broached this subject earlier, and, indeed, uric acid and glycosuria are quite remarkable in this way. Uric acid, for example, may come on suddenly as a sort of storm, may remain for many months, and then vanish as suddenly as it came, without giving any obvious reason for thus behaving. But even more closely resembling adolescent albuminuria is the malady known as paroxysmal hæmoglobinuria. Here a man who calls himself well will suddenly feel a slight malaise or chilliness, and the next urine voided by him will be claret coloured or like porter. This urine is found to be loaded with albumin, and supplies a most copious precipitate of blood-coloured detritus, yet it contains no blood corpuscles of any moment; there are no casts or indication of renal disease; and the pigment is all due to the presence of methæmoglobin. What collection of signs could look worse for the integrity of the kidney? Yet they all vanish again within a few hours, the patient being no worse than he was before the attack; and the many examinations of such cases that have been made conclusively show that the kidney is structurally sound, and these cases never, so far as I know, eventuate in acute or chronic Bright's disease. The condition is indeed so sudden and evanescent that again it would seem to suggest some local chemical precipitation in the tubes of the liver or kidney, a local hæmolytic process, and perhaps, if so, it may furnish a suggestion of leucolysis for the albuminuria of adolescents, induced, say, by the hyperacidity of the night secretion and then brought to light by the tidal wave of the early day. There is no doubt that the morning urine, especially that passed after breakfast—when adolescent albuminuria is very prone to exhibit itself in a pronounced degree—is the sport of unstable function. It is then that a neutral urine with phosphates is prone to appear and to create great discomfort; I think uric acid also. Of sugar I am less certain; perhaps it and oxalates have a more diurnal distribution.

Circulatory Fluctuations.

Then the hypothesis of intermittent claudication is one that might conceivably have a good deal to say in explanation of paroxysmal albuminuria, or that, perhaps, and a tidal rhythm in conjunction. If we could see the peripheral circulation in the human taken as a whole as one can watch the blood flow in the frog's web, there would be witnessed recurring halts and retardations in the onward flow between one part and another, and this would be seen to apply not only to some small area, but also equally in larger measure to the entire vascular circuit, now here, now there, as controlled by nerves in common. We have only to think of it and one feels that it must be so, but we also know from instruments of precision that it is so. If means are taken to ascertain the blood pressure in arm, say, or leg, and having attained its average the subject is set to conduct some special train of thought, the manometer will at once show some local fall of pressure. The requirements of mental function demand an increase of supply, and reserves are called up automatically. Any number of examples of this physiological rule will occur to you, negative and positive. One of the earliest indications of failing nerve power is obstinate constipation; there are no supplies to meet the required expenditure. The proverbial shiver after a good dinner tells, I suppose, that much of one's energy of blood and nerve has gone elsewhere than to the skin for purposes of digestion, and that there is not quite enough to go round, and I have often thought that it might be a good gauge of the capacity of preacher or lecturer to set him to compose an address and take the temperature of his feet meanwhile. I doubt if many would talk twaddle if their feet grew cold as they write. Of this, no doubt, was born—and there is plenty to say for it—the old and almost forgotten method of treatment known as derivation, and perhaps counter-irritation also. Thinking thus one can readily see how congestion and stasis might occur, do occur, not as morbid states, but as temporarily recurring physiological conditions, and how even in such the natural osmotic processes might be interfered with *pro* and *con.*, how the normally adaptive changes of the nutrient juices might be arrested or altered; and how thus, especially under the sway of an incoming tide of function, a temporary globulinuria might appear. Moreover, fluxes of such sorts would certainly involve corresponding reflexes in the local areas of supply, and thus spasm as one of numerous results would follow.

One other point I would add: I have said that in most of these cases it is not a matter of ill-health with the subject. The condition is, perhaps, more likely to occur in states of relaxation or want of tone, and this is rather suggested by the fact, already stated, that in a very large proportion of my cases I have made a note that the boy was overgrown or had been rapidly growing within recent times, and I think it probable that in what should be a coördinate expansion and development of the body as a whole—mind and body—there is very often a want of correlation between the parts, and such as be fundamental and voracious in drawing supplies, the nervous and sexual centres, for example, may exact too much and depress the whole. The rhythmic character of the occurrence might be in part satisfied by some such supposition.

Doubtful Cases.

But having spoken somewhat dogmatically upon the innocent nature of paroxysmal albuminuria I must equally strongly insist that all such cases need a full examination before coming to a diagnosis. Medicine unfortunately does not admit of many unqualified assertions, perhaps of none, and you will meet now and then with a case where you must remain in doubt and upon which you must refuse to speak positively. For example, a boy, some 10 years old, was brought to me 15 months ago, who had had albuminuria for at least six months. He was of an exceedingly pallid tint and his tissues were flabby and unhealthy, and he gave me the impression of a child who had been bred up in a hothouse, but neither then nor at any previous time had he had any dropsy or, indeed, any evidence of serious illness. He had, of course, as was supposed to be right and proper for a child with renal disease, been shielded from every draught and chill, playmates and games were unknown to him, and he had been fed on large quantities of milk. The urine that was brought to me contained a very large quantity of albumin. I had four specimens of the day's urine sent to me several times, but, although there was some variability in the quantity from time to time, there was not so much as one is accustomed to find in these cases, and the albumin was never in any one specimen anywhere near being altogether absent. But the acetic acid precipitate was present in quantity, and there were no casts or other abnormal findings to be discovered in the urine. In such circumstances I was uncertain. By no means prepared to exclude renal disease, I was yet quite inclined to think it might be physiological, so we altered his diet, cutting off the quantity of milk he had been taking and giving him meat in an ordinary mixed diet. I do not know that I can yet say how the case will turn out, for there has been, and still is, albumin in all the specimens. I have examined two specimens of the boy's urine last week. That on rising is 1028, a perfectly healthy specimen to look at, but it contains a trace of albumin, and there is also present the acetic acid precipitate. An afternoon specimen is 1018, and gives similar reactions; but at any rate I can say this, that the boy is very much better in health, that he goes to school and seems quite well, and I am inclined to think that he will bear out the truth of the late Sir William Broadbent's remark, that to treat these cases as if they were cases of renal disease only makes them worse and converts some into chronic invalids.

From such cases let me turn to another of even less dubious nature. In February, 1911, I saw a boy of 13½, who was 5 feet 2½ inches in height—some 3 inches above the average—and 6 stones 2 pounds, about the average weight for his age. He was a poor specimen, more a girl than a boy, a good companion for adults, good at lessons, poor at games. He had a pallid face, and his urine contained a large quantity of albumin. There was but little to be got, but it was full of lithates as well as of albumin. I sent him home for further examination, and three specimens of urine were obtained; that at 8 A.M. was pale, clear, acid, specific gravity 1020, urea 3·3 per cent. Albumin only a very slight cloud. The deposit was small in amount, of flocculent mucus, with small numbers of epithelial cells, from the urinary passages, and a few leucocytes, but no blood, pus, casts, or crystals. The specimens passed at 11 and in the afternoon were neutral, the albumin being in each rather more than in the early morning one, the deposit giving similar results.

Now, having obtained the information that at one time the urine contained a large quantity of albumin and afterwards *a mere trace*, I suspect that I considered this a case of adolescent albuminuria, but unfortunately he did not come under medical observation again until this last autumn, when he was found to be generally œdematous, his urine to be solid with albumin, and the boy evidently ill with a very grave form of renal disease. The only history of illness that could be obtained was that of a bad throat early in the year, but from this he was supposed to have quite recovered. The case was in some respects peculiar, for he is a youth whose urine is always scanty; always contains quantities of lithates as well as the albumin; and his blood pressure is always low. I may add that his urine does not give the acetic acid precipitate.

Remarks on Nephritis.

One last word as to the bearing of much of what I have said upon the larger question of nephritis in general. These borderland cases do undoubtedly suggest that though certain groups of signs are clinically distinct enough, there is no hard-and-fast line—there could not be—between inexactitude of function and disease that reveals itself by structural change. Therefore, although I am suggesting that we must always take a liberal measure of the range of health, I would not on that account ignore its opposite, the play of disease. There is much in the pathology of the secreting structure of the kidney, whether acute or chronic, that may face either way, and that in doing so cannot but often raise the question, What is the best method of dealing with this or that individual *case*—as of old, I hardly know whether to say disease or patient—and I doubt not that you, as I am, are too often dissatisfied at the results of routine treatment. The prolonged period of rest in bed, the purging, the baths and other sudorifics, the attempt to reduce tension, the milk diet, the exclusion of all meat, purins, alcohol, and so on—each and all objects that may be good in due season—are often sadly deficient in good results, if indeed they be not sometimes productive of harm. And I suspect that each of us can recall many a case where a more generous outlook has been beneficial to the patient. There is no doubt, indeed, that nephritis varies much more between case and case than is generally allowed, the large red kidney, the large white one, and the granular kidney, are all definite enough, but why—to take only the more acute cases—is there a sudden onset in one; an insidious start in another? In one suppression of urine, in another polyuria? In one an always clear urine, in another a heavy uratic deposit, at the same time that there is much albumin? In one much albumin, in another little? In one high pressure, in another low? The same looking kidney more or less in all? It is clear that the gross lesion in the organ will not account for the variation in the particulars, and that you have to deal with the blood in one, the nervous system in another, the metabolism of a third, and so on; and there is perhaps no organ in the body of which it can be more appropriately said that to right it, or to give an opinion upon the chances of so doing, you must study the patient more than his disease.

The Hunterian Lectures
ON
INFANTILISM.

Delivered before the Royal College of Surgeons of England on Feb. 2nd and 4th, 1914,

By HASTINGS GILFORD, F.R.C.S. Eng.

LECTURE II.[1]

Delivered on Feb. 4th.

Mr. President, Ladies, and Gentlemen,—In my previous lecture I dwelt upon the subject of symptomatic infantilism and upon its main points of difference from essential infantilism, especially that form which is known as ateleiosis. In so doing it became obvious that the salient distinctive features of ateleiosis are in principle also characteristic of mutations in general. We now pass on to another of these characters of double significance.

Ateleiosis is Prone to be Associated with other Anomalies of Development.

It is recognised by biologists that mutations, or sports, of different kinds are apt to occur together in the same animal or plant. Ateleiosis also shows its character as a mutation in a similar way. Thus in two cases it was associated with multiple osteochondromata or exostoses, in one case with hyperplasia of the gums, in another with a persistent ductus arteriosus, and in others with malformation of the phalanges. In the skeleton of Bobby Fenwick there is a malformation of the mandible. Some have been associated with abnormal longevity, others with premature senility. Of these associated "sports" one of the most interesting is that of absence or of stumpiness of the phalanges, which has been recorded in at least four cases, for it reminds us of a similar state of affairs in brachydactyly, which is known to be hereditary and to occur in company with shortness of stature.

It might be expected of these associated mutations that they would be more likely to occur in organs which usually work together than in organs unrelated. But it is by no means certain that this is the case. Among plants variations crop up apparently irrespective of physiological relations, and generally speaking we can trace no more method in their distribution among animals. Yet there are exceptions to this irregularity, for it has been noticed that the organs which control growth or development seem to be specially selected for variation where variations are in fashion. At any rate, in plants when abrupt changes are of common occurrence the organs of sex are peculiarly liable to suffer, and in man we seem to trace a similar association.

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[1] Lecture I. was published in The Lancet of Feb. 28th, 1914, p. 587.

Associated Anomalies in Organs of Sex.

Thus achondroplasia, epilepsy, imbecility, idiocy, deaf-mutism, obesity, genius, as well as myxœdema, cretinism, and many other abnormalities, are associated either with sexual repulsion, with lessened fecundity, or with downright sterility. This appears to be Nature's method of stamping out departures from the normal, especially if they be regressive or otherwise undesirable. It is not improbable that we can in this way account for asexual ateleiosis, which must be regarded as the culmination of a biological catastrophe.

Ateleiosis makes for sterility in many ways. Thus in the first place, except to the lovers of the odd or the marvellous, such very small people are not attractive, so that they are not so likely to get married as are normal individuals. Schmolch,[2] in referring to ateleiosis appearing in no less than 9 members of one stock, says that the people of the district were disinclined to marry even the normal members lest their children should be dwarfs.

It is probable also that the marriages of sexual ateleiotics with normal individuals are less fertile than is usual with people of ordinary stature, though we have no proof. But when two sexual ateleiotics marry there seems no reason to doubt that there is a decline of fecundity. It is true that out of the few cases recorded in one, that of the Gibson family, there were 9 children, 5 of whom grew up and were of normal size; and in another, that of the Skinners, there were no less than 14 children, all well grown and healthy, and in both of these cases the description of the parents is sufficient to stamp them as ateleiotics. On the other hand, diminished fertility is expressed, still more emphatically, in the frequency with which we read of greatly delayed development of the sex organs. This, as we already have noticed, is met with in all degrees, from mere scantiness of facial hair to complete sexual arrest dating from early fœtal life.

The most probable explanation of these varying relations of sexual to somatic development is that the local anomaly of sex development is either of a satellite nature or is reciprocal, and is the outcome of their normal correlation. Complete or conspicuous arrest of sex development is probably a mutation; but the lesser degrees of sexual defect may be due to the influence of correlation such as was referred to in my first lecture.

Associated Thyroid Insufficiency.

Another organ which, under ordinary circumstances, is in intimate relations with general development is the thyroid gland, and we know that it was Brissaud's opinion that the type of infantilism, of which most cases of ateleiosis are examples, is in reality the result of thyroid hypoplasia. And there is much to be said for this view, for often there is a slight puffiness or doughiness of the face, a peculiar yellowish waxiness of the complexion, and occasionally a pink tinge, eminently suggestive of myxœdema. It is not unlikely that these symptoms are actually produced by thyroid inadequacy, for it is sometimes difficult to make sure of the presence of the thyroid gland.

It is certain, too, that there are cases in which it is not easy to decide as to whether one has to deal with simple cretinism or *myxœdème fruste*, or with ateleiosis combined with cretinism. I myself have seen a case of this sort which was very puzzling, and of which I now show a photograph. It seemed quite impossible to say whether there was more ateleiosis or more cretinism in its composition. I was unfortunately unable to solve this problem by giving thyroid artificially.

Some of these cases may be examples of *myxœdème fruste*, but it is highly probable that many are, as they appear to be, examples of ateleiosis with secondary cretinoid symptoms or with actual cretinism. The explanation of such cases is that just as the sex organs are closely bound up with developmental affairs, so also is the thyroid gland, and that as we have all degrees of sexual incompleteness occurring in association with ateleiosis, so are there all degrees of thyroid insufficiency.

Associated Abnormalities of the Pituitary Gland.

A third endocrine organ intimately concerned with general development is the pituitary gland. But it will not do to assume that every case of infantilism in which there is a tumour of the hypophysis, or enlargement or smallness of its sella, as revealed by X rays, is necessarily pituitary infantilism. We have no more reason to come to this conclusion than we have to conclude that every case of asexual ateleiosis is the direct result of want of development of the sex organs, or that ateleiosis with symptoms of thyroid inadequacy is no more than primary cretinism. It is highly probable that just as pituitary hypoplasia may account for its own special type of infantilism, so also the pronounced form of infantilism with sexual hypoplasia which is sexual ateleiosis may occasionally be associated with some correlated defect or abnormality of the pituitary gland. If the sex organs and thyroid gland be sometimes involved in the biological misfortune of ateleiosis, we can hardly suppose that the pituitary body, whose functions are so closely bound up with the function of these same organs and with general development, will be exempt from such secondary disturbance. In one of Ettore Levi's[3] cases, before referred to, we seem to have an example of such secondary implication of the pituitary gland.

There were two sisters, one of whom grew normally until her tenth year, the other until her ninth year, when growth stopped or was checked. The former was 20½ years of age and 133 cm. high, and the latter 15½ years and 130 cm. high when described by Levi. In both cases the development resembled that which is usually met with in girls of between 10 and 11 years of age, that is at the height to which they had attained. They were therefore of the Lorain type. Yet apparently they were not examples of symptomatic infantilism, for no cause was found, and the cessation of development seems to have been very abrupt and definite. They were not apparently in a state of debility such as might account for their condition; and, above all, the occurrence of heredity, apart from any common cause, shows that the infantilism was of the nature of a mutation. In both cases there was sexual immaturity. The sella turcica of the of men of more anthropoid type, who, like the chimpanzee, orang, and gorilla, had branched off from the leading stock which constituted primitive man. At any rate, among the bones of animals and the flint implements of later palæolithic origin have been found the skeletons or skulls of a much more elegantly formed, shorter people, and there is plenty of evidence that men of this latter type at one time inhabited vast tracts of Europe, Asia, and Africa, where they are now extinct.

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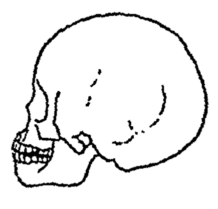
[2] See Eugenics Laboratory Memoirs, Treasury of Human Inheritance, Parts VII. and VIII., Section XV. A, Dwarfism. Virchow's Archiv, Band clxxxvii., S. 105, 1907.

[3] Nouvelle Iconographie de la Salpêtrière, tome xxi., pp. 297, 421, 1908.

Two skeletons of dwarfs of the Aurignacian age found in a cave at Mentone may be given as examples. These skulls, one of an old woman and the other of a boy of about 17 (Fig. 2), are of negroid character and have been shown by Pruner-Bey to be remarkably like those of modern Bushmen. The height of the woman's skeleton is about 1580 mm. and of the boy's 1540 mm., the present-day Bushman having a mean of 1530 mm.[11] It will be noticed in the pictures of the skull of the woman, which is compared by Professor Sollas with that of an adult Bushman, that the Aurignacian skull is still more infantile in its characters than is that of the Bushman, even if we take into consideration that it is the skull of a woman. The face is shorter, the body of the mandible being especially shallow, the muscular prominences less pronounced, the forehead more bulging, the nasal bone shorter, the cranium more rounded and almost devoid of character.

FIG. 2.



Palæolithic skull of Aurignacian youth, aged about 17, showing infantile and negroid characters. Infantile or childish features are shown in the relative proportions of the skull and face, the shape of the skull, the prominence of the forehead, the smallness of the nose, the size of the eye sockets, and in the character of its margins and of the brows. (Outline of Figure from "Les Grottes de Grimaldi," par R. Verneau, *L'Anthropologie*, tome xvii., p. 291.)

There are some interesting fossil bones of one of these dwarf races in this museum. They were found in 1910 by Colonel Willoughby Verner in a cave near Gibraltar and were alluded to by Professor Keith in his Hunterian lecture of 1911.[12] The latter regarded the thigh bone as "quite unlike any human thigh bone now known" and as of considerable antiquity. Dr. Duckworth[13] is of the opinion that the femur resembles those of the Aurignacian (palæolithic) dwarfs and of modern Bushmen and Andaman islanders.

3. *Prehistoric Drawings of the Human Figure.*

Fortunately, some of these dwarf peoples were given to drawing and painting, and a few of their incised drawings are still extant; and it is significant that these drawings or carvings rarely represent men of the coarse, long-limbed, beetle-browed, muscular type, but almost invariably of the short-limbed, big-headed type. Moreover, though some of them are fat or in a state of pregnancy, they are usually more or less elegantly formed and either with rounded outlines or else of slender build. Yet they are evidently not people of any civilisation, for the figures are always naked, and three of them are depicted as hairy. Some are evidently drawn by practised draughtsmen. Indeed, so much ability is shown that we attach all the more importance to their proportions, although in two cases the limbs are so exceedi[illegible] that they [illegible] functionally inadequat[illegible]. Figs. 3, [illegible] adult human figures o[illegible] origin [illegible] infantile characters.

FIG. 3.

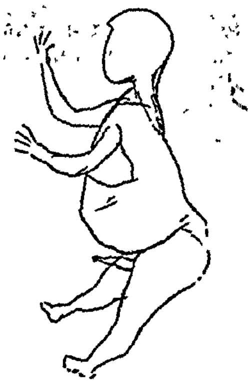


FIG. 4.

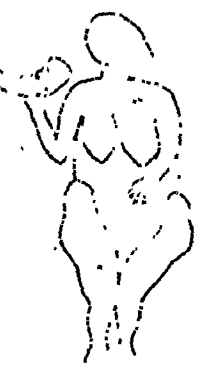


FIG. 5.

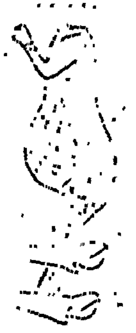


FIG. 3.—From an [illegible] (From "Sur les [illegible] Paléolithique," p[illegible] p. 421, 1910.)

FIG. 4.—Outline d[illegible] Department of t[illegible] at least 15,000 t[illegible] earliest known s[illegible] Figuration Hu[illegible] xxiii., p. 129, 19[illegible]

FIG. 5.—The "F[illegible] pregnant wom[illegible] hair on the [illegible] historique," [illegible]

These fig[illegible] remote pr[illegible] Compariso[illegible] Magdalen[illegible] human figures, [illegible] of short peoples of back[illegible] In other cases cave-drawn figures [illegible] men of highly conventional type have been reg[illegible] as akin to those drawn by the Bushmen of South Africa. This idea has been elaborat[illegible] by Professor Sollas in his "Ancien[illegible] their Modern Representatives," w[illegible] out many striking similarities b[illegible] and drawings of the Aurignacian [illegible] present-day Bushmen.

4. *Tradition.*

Pictures are not the only trace[illegible] left behind by these prehistoric [illegible] thing may also be gathered fro[illegible] form of folk stories or of [illegible] collected from many differen[illegible] extraordinarily similar that it [illegible] them over as of no value, the[illegible] being by itself valuable evi[illegible] founded upon facts. These [illegible] giants, but as a rule to dw[illegible] names of pixies, kobolds, fai[illegible] nisses, trolls, elves, and little [illegible] were characterised by a mix[illegible] ness and simplicity, where[illegible] only big, but dull-witted, [illegible] tastes. often cannibals, and [illegible] people.

The sort of knowledge which we ge[illegible] stories and fairy tales all tends to bear out evidence showing that in some remote prehistoric times there were few parts of the earth's surface which were not inhabited by dwarf races. Moreover, the manners, intelligence, and even the appearance of these little people have been handed down by this same kind of tradition. Thus, according to Mr. Croker,[14] an "elf" appears like a beautiful child a few years old, delicate and well-shaped; the Scotch and Welsh legends describe him decidedly in this manner. Yet they were not all of one kind, for "in the tradition of these fairies they are described at the same time as beautiful and as old and ugly. The dwarf too has the infant form, but is aged and disagreeable in appearance." Mr. Craigie[15] says that dwarfs among the Scandinavians "are short and thick, beardless, but not at all ugly. They are as big as children or babies. Nisses are no larger than little children." They "are *only 3 or 4 feet high, with big clumsy heads, broad* faces, big round noses, and red hair."

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[11] Ancient Hunters and their Modern Representatives, Professor W. J. Sollas, 1911, p. 267.

[12] THE LANCET, 1911, vol. i., p. 722.

[13] Prehistoric Man, W. L. H. Duckworth, p. 49.

In regard to the manners and customs of these dwarf people we are told that they were fond of dancing, of music, of processions. They were active, roguish, good-natured, capricious; a combination of good and evil, of duplicity and sincerity; sometimes generous and obliging, at others in the highest degree vindictive or malicious. Though fond of teasing, of making game of people, they would not suffer themselves to be laughed at nor permit any retaliation.

In short, in nearly all countries we find these little people represented as not only with the size and proportions of children, but also as showing childish traits and the disposition, tastes, the mixed simplicity and astuteness so characteristic of childhood. In a Chinese picture reproduced by Moseley,[16] some of them with the proportions of infants or young children are represented walking arm-in-arm. The work from which this picture is derived is supposed to date back to 2205 B.C.

Mr. E. S. Hartland in his "Science of Fairy Tales" (p. 345) says that "the myths of nations all over the world follow one general law and display common characteristics," and that "all these folk *stories are built upon the same general plan*; the same backbone of thought runs through them; and between them all there is no greater divergence than that which in the physical realm separates mammal from bird or bird from reptile. It is inevitable to conclude that even the most recently discovered folk tale of them has come to us from a distant period when our forefathers were in the same rude state as Dyaks and South Sea Islanders."

Another great ethnical authority, Mr. E. B. Tylor,[17] states, that these tales of dwarfs "are connected with traditions of real indigenous or hostile tribes is settled beyond question by the evidence brought forward by Grimm, Nilsson, and Hannsch."

5. *People in a State of Racial Infantilism.*

We have already referred to the dwarf races which still exist in different parts of Asia and Africa. Some apparently are of negroid origin, others show Mongolian affinities. There is good reason to believe that they represent peoples in a state of racial stagnation or infantilism. The causes calculated to produce racial infantilism would be of a regressive or depressing character. In the case of these racial or phyletic dwarfs there exists a depressing environment quite sufficient to account for the extreme sluggishness of their evolution. This is constituted by the great gloomy arboreal forest in the shades of which so many of these dwarfs live. And similarly with the Bushmen and other dwarf races which are subjected to hard living in deserts or mountains.

Kollmann's view is that these ethnic dwarf peoples are the direct and but little altered descendants of the palæolithic dwarfs who at one time were spread over the greater part of the world and whose drawings and bones are found here and there in Europe. They represent the dwarfs of the caves and the woods, who at one time danced in the moonlight in most of the countries of Europe, Africa, and Asia and who were the origin of the legendary tales of little people which exist in all *nations*.

Sir William Flower[18] termed these ethnic dwarfs "living fossils" and remarked on their round heads, which are contrasted with the longer heads of the living races around them, and also on the "almost infantile appearance" of some dwarf crania.

There is much diversity in the different accounts of these dwarfs. They are often described as like monkeys, and are even termed "monkey people" by their neighbours. Some resemble children in their proportions. They then have large heads, rounded foreheads, high shoulders, short lower limbs, protuberant abdomens, small hands and feet, and short flat infantile faces. Their noses are sunken at the root. Like children, they show remarkable uniformity in their physiognomies. Facial hair is scanty, yet among some tribes the whole body is apt to be clothed with a sparse or more or less thick crop of reddish hair. De Quatrefages says that two full-grown Akkas brought to Europe in 1873 were by some of those who examined them regarded as children. De Quatrefages[19] says of their dispositions and habits that "the general character of the two Akkas has remained sensitive, impulsive, and recalls that of our children. They love to play; *their movements are quick*; when they walk they only go at quick step." It is, of course, among women in especial that the infantile characters predominate, and Ratzel[20] figures an African woman of mature development, who, apart from her colour, the character of her hair, and her sexual features, would do for the picture of a European child. It has been noticed that the pygmy pelvis tends to approach the infantile form. In other instances the proportions are *those of ordinary adults. This* was the case, for example, with two Akka skeletons, now in the Natural History Museum, given by Emin Pasha and described by Sir William Flower. These and some other Central African dwarfs, though childish in some respects, are in the main of adult proportions.

Flower said of these dwarfs that "they are obviously negroes of a special type and bear much the same relation to the larger long-headed African negroes that the negritos bear to their long-headed Melanesian neighbours." And this view is also held by Professor Keith, who believes that the dwarf races are in reality offshoots from the neighbouring races of bigger people.

There are, therefore, two ways of looking at these ethnic dwarfs. In the one they are regarded as never having arrived at a higher point of evolution. In the other it is supposed that they are derived locally from neighbouring races of ordinary stature. But according to the modern views of genetics such a change would not take place by a series of smaller degrees of variation, but would be much more likely to start suddenly by mutation. And the kind of mutation calculated to reduce people from a bigger and more mature type to a smaller and less developed would be a regressive variation. It would, in short, be of the nature of the mutation which we suppose is ateleiosis.

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[14] Fairy Legends and Traditions of the South of Ireland, Part III., P. C. Croker.

[15] Scandinavian Folk-lore, selected and translated by W. A. Craigie.

[16] Notes by a Naturalist of a Voyage in the Beagle, p. 428.

[17] Primitive Culture, 1871, vol. i., p. 348.

[18] Essays on Museum, Chapter xix., the Pygmy Races of Man.

[19] The Pygmies, transl. Starr, p. 182.

[20] The History of Mankind, transl. Butler, Div. K, Book iii., p. 302.

In Europe, where racial standards are constantly improving, such a regressive sport as ateleiosis meets with a cold reception, for it is in discord with the circumstances of our civilisation. It therefore soon becomes extinct. But a similar regression to a dwarf type occurring among nations themselves regressive and surrounded by conditions unfavourable to progress would be much more likely to be fertile and to survive. And the point I wish to accentuate is that such regressive mutations necessarily tend to reproduce characters distinctive of an earlier evolutionary type. A regressive variation is a reversive variation.

If we sum up the evidence afforded by these ethnic dwarfs of Asia and Africa we observe that within restricted limits they exhibit great diversity of form. Some show many childish or infantile features, others are of more adult type. But on the whole their height, proportions, history, conduct, tastes are in favour of the view that they are indeed the present-day representatives of man in the infantile stage of his evolution, but modified by circumstances. It is hardly conceivable that any animal should remain for untold ages exactly stationary, marking time in his evolution. It is much more likely that changes have slowly gone on. And these changes would tend to bring the pygmies into line with neighbouring races, some of them being in the direction of a more adult type of figure, others in that of negroid or other characters suitable to their habitat.

Much interesting information about "The Pygmy and Negro Races of Africa" was given here in a Hunterian Lecture by Dr. F. C. Shrubsall[21] eight years ago.

Very little seems to be known of the children of these negrito and negrillo races. But there is an important specimen in this museum which bears upon the subject. It is that of a newly born child from one of the Central African dwarfs. This child weighed 5 lb. 12 oz. It was therefore about 1 lb. under the weight of a normal European baby. Yet it was apparently an unusually big negrillo baby if we may judge from the fact that it owed its death to the difficulties which attended its birth.

6. *Modern Children.*

We now come to the evidence furnished by contemporary undeveloped man. It is now regarded as an established truth that the young child playing with his Noah's ark, with bows and arrows, delighting in the rhythm of music and of dancing, fond of all sorts of living animals, wild and tame, eager for country walks to gather fruit and birds' eggs from the hedges, enjoying the glow and crackle of bonfires and in terror of the dark, derives his tastes from his remote ancestors who lived at a time of evolution which corresponded with the childhood period of individual development. His innate conservatism, his vivid imagination, his especial liking for stories of wild life and adventure, of uninhabited islands, of fairy tales, are full of significance.

All this is, of course, well known to everyone here and need not be dwelt upon, but what is important to my subject is that the evidence of our descent from a savage type of man is not exclusively functional. All these savage traits must have a physical basis. This is as certain as that a certain kind of structure is inseparably connected with the function of urinary secretion, another kind with the production of bile. It is but natural to suppose that in a general way the type of being which reproduces the ways of our palæolithic ancestors must also to a similar degree reproduce his structure. This will, of course, have changed from the orginal type during the ages, but there is no reason to suppose that this modification will be more of form than of function.

We must regard the child as the outcome of two sets of circumstances. The one set, prehistoric, tends to reproduce the characters of primitive, undeveloped man; the other, contemporary, is partly pre-natal and partly post-natal. He is the original wild man suitably moulded for existence in the uterus and as a baby and child. He is the creature of heredity adapted to a modern environment.

I am quite aware that this view of the phylogeny of man goes no further than to the fringe of the matter, and that its statement is one-sided. But I am emboldened to adopt it because I know that it has already been advocated by Kollmann and by many other anthropologists. Moreover, I can hardly do otherwise, for it is the logical outcome of the biological method of dealing with my subject. I feel myself carried inevitably along to the conclusion to which I have arrived, and can see no other way of accounting for infantilism. This biological conception of ateleiosis may possibly throw light on some of its characters difficult to explain. It may account for the way in which ateleiosis not only perpetuates infantile features but exaggerates them. In other words, the growth which creeps on so tardily after ateleiosis has set in, instead of tending to obliterate the infantilism accentuates it. And this fact must needs be regarded as much in favour of the reversion theory. Thus, the exceedingly short limbs of some ateleiotics forcibly remind us of the limbs of the carved drawings of Aurignacian origin. The noses also of some sexual ateleiotics are so excessively sunken at the bridge as to look pinched in or puckered, and this same feature may be noticed in some of the Mid-African dwarfs.

Another character noticed by Rischbieth as hitherto unexplainable is the peculiar yellowish tinge so often seen in ateleiotics. Is it conceivable that this represents a reversion to the skin pigmentation of primitive man? Schweinfurth compared the colour of the Akkas to that of coffee slightly roasted; Bushmen are of a light yellow tinge.

Yet another fact of possible biological significance, also referred to in the "Treasury of Human Inheritance" (p. 508), is the occasional occurrence of ateleiosis in people of a similar name possibly coming from the same stock but not known to be related. The particular instance given in the "Treasury" is that of the two Lehnens, one of whom, Jacob, was a celebrated painter born at Hinterweiler in the province of Treves in 1802[22] and who died at Coblenz in 1847 at the age of 45. The other, Peter Lehnen, was described by Schaaffhausen. He died at Coblenz at the age of 61 in 1868. No connexion can be traced between these two cases, both undoubtedly ateleiotic. Nothing is said about the occurrence of dwarfism in others of

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THE LANCET, 1906, vol. i., pp. 983, 1050, 1133.

[22] The particulars are from "Les Nains et les Géants," by Edouard Garnier, p. 238.

Jacob's family, but Peter was one of a family of nine, four of whom were dwarfs, he being the eldest. Though it is not possible to trace any direct connexion, it is in the highest degree improbable that there is not some bond of relationship between them, though it may be remote.

We also notice that the Magri family came from the province of Ferrara in Italy and the Magro family from Sicily, both being examples of hereditary ateleiosis. Possibly these two families were offshoots from one stem. For it is characteristic of mutations that they should be latent, breaking out in perhaps widely separated branches from the same stock.

CONCLUSIONS AS TO GENERAL INFANTILISM.

We are now in a position to make a general statement as to the nature and origin of general infantilism. General infantilism is a variation of the process of normal development whereby it is seriously hindered at some stage prior to the appearance of puberty. There are two main biological divisions.

The one is a fluctuation. In other words, the appearance of the infantilism is determined by two factors, the one an inherent tendency for development to be curtailed, the other an environment, or its equivalent, which facilitates or accentuates the change. The variation is of a regressive character; hence the environment which is congenial to its appearance is itself of a regressive or depressive kind, and consists in the toxins or in the presence within the body of an imperfect or diseased organ which by correlation exerts an injurious influence upon the body as a whole. Or the depressive agency is exerted in a secondary manner through a secretion from one of the organs which preside over development. This form of infantilism is therefore symptomatic. Symptomatic infantilism being the outcome of a milder degree of variation is the less striking of the two forms, is usually of the Lorain type, and often terminates in ordinary dwarfism.

The other form of variation is more emphatic, for it tends to delay development to a still greater degree. It is so strong that it is in no way dependent upon the action of environment and is hereditary. It is a mutation, and like all mutations is prone to be accompanied by corresponding mutations in other directions. One of the most notable is that which affects the reproductive organs, stopping their development and tending, therefore, automatically to its own extinction. This important feature serves to divide mutational infantilism into two kinds—the sexual and the asexual. It must be recognised, however, that these merge one into the other, there being all sorts of gradations between them. Of infantilism as a mutation, or essential infantilism, there are two forms, ateleiosis and progeria. Either of these may appear at any age before puberty, giving rise to important differences in their appearance. Ateleiosis may therefore be divided into three classes, of which the first or most pronounced class originates in fœtal life, the second in infancy, and the third during childhood.

Ateleiosis being a mutation of a regressive kind virtually stops the development of the human being at a stage which corresponds to a similar stage in his evolution. Hence ateleiotics of the first class are often imbecile or lack intelligence. Those of the second class bear comparison with all that we know of certain short human beings who lived in the early Stone Age. The evidence we possess tends to show that palæolithic man varied widely in stature, in intelligence, and in many other characters. Yet he may be divided into two great classes. One was decadent, tending to the reproduction of the characters of a far earlier type of brute ancestry. Primitive man of this stamp was, as a rule, big-boned, coarse, muscular, brutal. Generally speaking, his cranial and facial characters were of the simian type. This same degenerate appearance tends to find expression in contemporary man under degenerating conditions. It is expressed in the natives of Australia and New Guinea. Traces of it are seen in the coarsening of the physiognomy, the drooping of the shoulders, the overhanging eyebrows of old age. It is sometimes markedly shown in that pathological degeneration which sweeps over the whole body in acromegaly and loosens the restraints of growth and development in nearly every organ of the body. It is manifested in the lowering of the brows, prominent jaws, coarse features, furtive expression, and stooping attitude of the criminal, and in the corrugated brows and clenched and exposed teeth of cruelty, brutality, and passion.

The second type of prehistoric man may be denominated the child type. The evidence that our descent has been from smaller to bigger and not from bigger to smaller is indicated in many ways. Man in his development recapitulates his ancestry. There are many traits in the life of a child which can only be explained as reminiscent of a corresponding stage in his evolution, and these functional evidences must correspond in some degree with an appropriate formation. There must be some fitness between the bodily architecture and the uses to which that body is put. The form of a child must be in many ways reminiscent of that of the savage ancestor who has handed down to him his social and ethical peculiarities. Evidence of this kind meets with support from tradition, which also points very clearly to the previous inhabitants of the earth having been of the big and degenerate type on the one hand, and of the small, child type on the other. Figures carved by these long-ago ancestors tend to confirm this impression.

Lastly, in certain inhospitable parts of the earth's surface, such as are calculated to stagnate development, there exist here and there races of dwarfs, many of whom approach the child in size and proportions. The nature of their surroundings, the character of their weapons, their tastes, habits, psychological characters, the contrast they present with their bigger neighbours, all tend to give the impression that they represent remnants of numerous dwarf peoples who at one time spread over the greater part of the earth's surface.

All this evidence points to the conclusion that the immature human being, stopped in his somatic development while still a child, but sexually perfect, reproduces in a general way the characters of his ancestors of the early Stone Age.

INFANTILISM OF SENILE TYPE.

It has been observed that among the secondary eccentricities of development which accompany ateleiosis we meet with some which affect longevity. Although it is probable that ateleiosis, as a rule, is not conducive to a normal duration of life, there are a good many cases on record, having regard to the rarity of this form of infantilism, in which life has continued well beyond the normal three score years and ten. So that we naturally ask whether it is right to regard ateleiosis as a disorder, seeing that even in its characteristic form it may rather protract than curtail the general curve of development. But as with other characters of ateleiosis, we have to fix our attention upon the condition as a whole rather than to select special cases. We can set off against these examples of abnormal longevity an equal number showing premature old age. Both extremes are abnormal and serve to impress us with the abnormality of ateleiosis itself.

Among the cases of premature senile decay or senilism which have supervened upon the infantilism of ateleiosis some have been of a very conspicuous character. One of these, described by the late Dr. Ransom,[23] is a very good example of the importance of not attributing infantilism to pituitary defect unless the evidence is pretty conclusive. For in this case the symptoms during life were exceedingly suggestive of a pituitary origin. The patient was a single woman, aged 27, who had left school at 12 owing to constant headache. There had been symptoms of diabetes for two years. She was 1307 mm. in height, equal to that of a child aged 10½ years. The face was said to be "juvenile, resembling that of a girl of 11 or 12, but also pinched and worn and with a suggestion of age." She was greatly emaciated. After death there were found "premature senile changes—e.g., atheroma, endarteritis, fibrosis of the thyroid, pancreas, spleen, mesenteric glands, and pituitary body." Mr. J. H. Targett pronounced the fibrosis of the pancreas to be "peculiar and not like the cirrhosis of diabetes." "The pituitary body was normal to the naked eye. Under the microscope there was a well-marked increase of fibrous tissue in the glandular portion, but on the whole the appearance of the gland cells was normal." "There was marked underdevelopment of the generative organs. Neither ovaries nor testis could be found, and the uterus was represented by a small T-shaped body, one inch long by one-third of an inch broad." Dr. Ransom regarded it as a case of asexual ateleiosis showing premature senile changes. And with that view I think we must agree. It seems to have been of the childish, or third, class.

I have myself elsewhere described other cases of infantilism of the senile type.[24] One of these was the celebrated French dwarf Bébé, who died from senile decay at the age of 22½ years. Here the occurrence of microcephaly and of syphilitic changes makes it difficult to determine the exact nature of the infantilism upon which the senilism supervened. Although as a rule the senilism is secondary to ateleiosis, as in Dr. Ransom's case and in one of my cases, it sometimes arises simultaneously with the infantilism, and this is progeria.

PROGERIA.[25]

Although progeria was described in 1886 apparently only three undoubted examples have been recorded. The late Sir Jonathan Hutchinson was the first to give an account of a case[26] in 1886. I myself followed with another in 1902 and four years ago Dr. Variot and Dr. Pironneau,[27] of Paris, described a third case. There are also the more important bones, including the complete skull, of an example of progeria in this museum, fully described by Professor Keith[28] last year. The first two were in males, one of whom died at 17 and the other at 18, both from senile decay. Variot's case in a female is, I believe, still alive. To-day I am able, through the kindness of Dr. Arthur Davies, to mention a fourth case, in an adult man, not yet described.

I do not propose to enter into the details of this extraordinary malady. I need only state that it is characterised by profound infantilism running side by side with premature senile decay or senilism. Although it differs widely in its manifestations from ateleiosis, progeria is also an essential infantilism and can be traced to no definite cause. The characters of this infantilism are graphically brought out in Professor Keith's article in THE LANCET. He there makes a searching and convincing comparison between the skeletons of progeria and of acromegaly, between those of progeria and of ateleiosis, and between the two last and a normal skeleton. This comparison tends irresistibly to the conclusion tha[illegible] to acromegaly. Moreover, he [illegible] sible that ateleiosis stands in the same relationship to progeria as giantism stands to acromegaly." M. Variot and M. Pironneau are, on the other hand, inclined to regard the series of changes in progeria as the result of suprarenal inadequacy.

The above-mentioned three cases were extraordinarily similar. The photographs which I have seen of Dr. Arthur Davies's case show that it differed in many [illegible]. [illegible] is to be observed that none [illegible] is fundamental. In all cases they are apparently to be explained on the ground that in Dr. Davies's case the disorder began at a much later age—that is, at a time when the formation of the body was completed. Hence the stature is not so short, the proportions are more adult, and the signs of premature senile decay are not so pronounced. But what is perhaps the most remarkable of these differences is that in Dr. Davies's case there is none of that emaciation which is such an outstanding feature of the earlier cases. This case bears out the opinion I have elsewhere expressed that progeria, like ateleiosis, should be divided into classes according to the age at which it begins. The cases hitherto recorded are examples of the progeria starting in infancy. Dr. Davies's case apparently began in late childhood. Doubtless it is sometimes also of fœtal origin, or does not show itself until adolescence, each class showing features distinctive of the period at which it began.

Progeria and Acromegaly.

There are a few points about progeria which demand comment, for they are peculiarly pertinent to what has already been said about ateleiosis. The infantilism of progeria is evidently of the sexual order, for in both the cases which I have described the primary sexual organs were not abnormally backward in development, and the epiphyseal ossification about corresponded with their ages. This latter point was confirmed by Professor Keith in his examination of the skeleton in this Museum. There are two deductions to be made from this. One is that it emphasises what has already been said of the relations of sexual development to infantilism, for it is evident that though in progeria there is no backward development of sex, yet the individual is, as Professor Keith shows, in many ways in a state of profound infantilism. Infantilism, therefore, is quite consistent with sexual perfection.

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[23] Practitioner, September, 1906.

[24] Disorders of Post-natal Growth and Development, p. 638.

[25] Disorders of Post-natal Growth and Development, p. 646; Practitioner, vol. lxxiii., 1904, p. 188.

[26] Royal Medical and Chirurgical Society Transactions, 1886, vol. lxix., p. 36.

[27] Bulletins de la Société de Pédiatrie de Paris, 1910, p. 307; La Clinique Infantile, vol. viii., 1910, p. 705.

[28] THE LANCET, 1913, vol. i., p. 309.

The second point is that although morphologically these early cases of progeria are in so many important respects opposed to acromegaly they differ widely and fundamentally from Fröhlich's infantilism. Thus, so far from showing the lumpy obesity of pituitary infantilism, these beings are exceedingly emaciated. They resembled the extreme leanness to be seen in the victims of famine. And even more important is the fact that sexual hypoplasia, such an essential feature of pituitary infantilism, was certainly absent in all the male cases.

Finally, it is not possible to find any direct evidence of pituitary hypoplasia from an examination of the sella turcica. Professor Keith says of his case: "The pituitary fossa is smaller than normal, and yet the reduction in size is not sufficient to justify us in affirming that insufficient glandular tissue was present." And in Dr. Davies's case a skiagram of the base of the skull shows that the pituitary fossa is of normal size and appearance.

Hence the facts which bear on the relationship between acromegaly and progeria seem inconsistent, for whereas Professor Keith's osteological observations point emphatically to the one disease being the antithesis of the other, a comparison between the symptoms of pituitary overgrowth (acromegaly) and of pituitary undergrowth (Frohlich's infantilism) on the one hand, and of Fröhlich's infantilism and progeria on the other hand seems contradictory.

The view I have myself for a long time held in regard to these two conditions is that we ought to look upon progeria as in no way secondary to any derangement or imperfection of the pituitary body, but as itself primary and essential, the infantilism being in reality the fundamental condition and the senilism its immediate and direct outcome. Progeria is thus opposed to acromegaly only because progeria represents an extreme form of infantilism, whereas in acromegaly we see exaggerated features of senility. In this respect much the same may be said of ateleiosis. Indeed, Dr. Woods Hutchinson long ago pointed out the opposed characters of infantilism and of acromegaly. Infantilism is opposed to acromegaly because the infantilism perpetuates the childish or undeveloped type, no matter whether we regard it from the point of view of the individual or of the race; whereas acromegaly expresses in an exaggerated form the ape-like characters of senile decay as well as the degenerate, simian forms of evolutionary man.

CONCLUSION.

I am at the end of my subject, but cannot conclude without calling attention to its importance. It is of great importance, partly for its own sake, partly in its bearing upon the nature and relief of certain morbid states, chiefly for the sake of the strong light which it throws upon ordinary growth and development. The exaggeration of disease, like the lenses of a microscope, enable us by magnification to see features which would otherwise escape observation. No one can study such extremes as dwarfism, gigantism, infantilism, and senilism without coming to a far better understanding of normal growth and development than is possible to anyone who confines his investigation to the normal.

THE MORBID ANATOMY OF TUBERCULOSIS IN MAN.

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(Concluded from p. 603.)

The Portals through which Tubercle Bacilli Invade the Human Body.—(Continued.)

The respiratory tract.—Under this heading there has already been considered the question of the portals of invasion in tuberculosis of the lungs and their regional glands, the conclusion being reached that most such cases arise from aerogenic infection. The next question to be dealt with is—

The relationship of tuberculosis of the tonsils and deep cervical glands to tuberculosis of the lungs and bronchial glands.—Orth was the first to demonstrate primary tonsillar tuberculosis. Aufrecht believed that the tonsils are the commonest portals of entry for the tubercle bacillus. Trautmann emphasises the importance of the tonsillar portal in tuberculosis of the cervical glands. Hansemann found primary tonsillar tuberculosis in only 1 per 1000 of his cases. Geipel and others regard tonsillar tuberculosis as invariably secondary to disease lower down in the respiratory tract.

On analysing the 111 cases of tuberculosis in children undergoing post-mortem examination in the Edinburgh Sick Children's Hospital during the period 1910–13—that is to say, during part of a period when special attention was being directed to the condition of the tonsils and cervical glands—I find that the tonsils were the seat of tuberculous disease in 11 cases (9·9 per cent.), and the cervical glands were caseous in 28 cases (25·2 per cent.). I have sought carefully for evidence supporting the view of Klebs and Grober that a tuberculous infection can pass directly from the lower deep cervical glands to the apex of the corresponding lung, and I can find only the following cases, and these can be explained on more rational grounds.

Case 1.—Male, aged 8 years. Extensive caseation of tonsils and cervical glands; fibro-caseous pleurisy over the whole of the left lung, and over the upper part of the right. Bronchial glands caseous, both sides. Subacute to chronic grey miliary, peribronchial tubercles Small caseous nodules in substance of spleen and kidneys. No ulceration of intestines. No excavation of lungs. Spread to peritoneum from pleura. Caseous nodules in meninges.

Case 2.—Male, aged 1 year. Right tonsil and cervical glands show advanced caseation; firm adhesions over the right apex; bronchial glands enlarged and caseous on the right side. Acute miliary tuberculosis of lungs, peritoneum liver, and spleen (the last also containing chronic tubercles). One small recent tuberculous ulcer in ileum.

Case 3.—Male, aged 13 years. Much enlarged and caseous supraclavicular glands on left side; mass of caseous glands at root of left lung, extending up to apex and pressing on it; numerous yellow tubercles in thickened pleura. Yellow tubercles in left lung; small cavity at *right* apex. Root and mediastinal glands enlarged and caseous.

In Case 1 we have a primary tuberculosis of the tonsils and cervical glands, lymph-hæmic invasion of the lungs, bronchial glands, spleen, kidneys, and meninges, and possibly a direct spread from the cervical glands to the pleuræ. The second and third cases may be explained in the same manner as the first, or as due to simultaneous infection through the tonsils and lower respiratory passages. I agree, therefore, with those authorities who maintain that no absolute proof of Klebs's and Grober's hypothesis exists, and that pulmonary tuberculosis seldom or never results by direct spread to the lungs from the supraclavicular glands, though it may do so by invasion from these glands, as from other parts of the body, by way of the lymph and blood streams.

Is an extension of tuberculosis possible from the cervical glands to the superior mediastinal and bronchial glands?—I have frequently noticed a continuous chain of enlarged and caseous glands stretching from the mastoid to the root of the lungs. Excluding those cases which an efficient examination shows to be the result of simultaneous ascending and descending infections meeting at the root of the neck, old lesions being present in the lungs and tonsils, I have no hesitation in asserting that, at least in Edinburgh, we occasionally meet with cases which one can explain only by assuming a downward extension throughout. These cases may be placed in two groups: (*a*) One in which extensive caseation and softening are seen in the clavicular group, or in the closely related group of glands in the superior mediastinum abutting on and sometimes infecting the thymus, the bronchial glands showing a more recent stage of tuberculosis, and the lungs showing either no tuberculosis or a more recent tuberculosis than that in the glands. (*b*) The other group of cases shows a continuous chain of caseous glands extending from the mastoid process to the root of the lung, the changes in the upper glands being of older date than those in the bronchial glands, the infection in the case of the lower glands being either retrograde or by direct extension *per contiguitatem.*

This I maintain, even in face of the acknowledged anatomical relationships of all these glands to the thoracic duct and angulus venosus, and also in face of the fact that in consequence one must assume a retrograde infection to the bronchial glands, just as in hilus phthisis one must assume a retrograde extension to the lungs from the bronchial glands, the channels through which have been blocked by caseation. Hart and Beitzke have shown conclusively that a retrograde infection of the lower tracheal glands can occur, partly as a result of the distension of the lymphatic trunks behind caseous glands, with resultant incompetence of their valves and stagnation of the lymph contained, and partly in consequence of the sucking backwards of the lymph towards the thorax, caused by the expansion of the thorax in inspiration. I may remark here that those authors who would restrict the progress of the tubercle bacillus to the ordinary anatomical lymphatic main channels apparently totally disregard the presence of anastomotic connexions between these channels.

A. P. Mitchell's work, in Edinburgh, is of great interest as showing the special danger run by the children in that city and neighbourhood from tuberculous infection by way of the tonsils and cervical glands. In 64 consecutive young children suffering from tuberculosis of the upper deep cervical glands he found histological evidences of tuberculous infection of the tonsils in 39 per cent. In 90 cases in which the cervical glands were clinically healthy the tonsils were histologically tuberculous in 6·5 per cent., and 10 per cent. gave positive results on inoculation of guinea-pigs. In a series of 72 consecutive cases of cervical gland tuberculosis, operated on by Mr. H. J. Stiles at the Sick Children's Hospital in Edinburgh, Mitchell found that 65, or 90 per cent., had been infected with the bovine bacillus, whereas only in 7, or 10 per cent., had the disease been caused by the human bacillus. The maximum incidence occurred during the second year of life. 84 per cent. of these children had been brought up upon unsterilised cow's milk. In not a single case amongst the 65 of bovine origin was there a history of pulmonary tuberculosis in other members of the family. Practically 50 per cent. of the cases came from rural districts in which there is little or no veterinary supervision of dairy cattle.

Lewis found that, of his cases of cervical tuberculous lymphadenitis, four-fifths of those over 15 years of age were due to infection by the human bacillus, whereas seven-ninths of those under 15 years of age were due to infection by the bovine bacillus. Carmichael and Stiles examined 50 tonsils from cases of cervical gland tuberculosis, and of these 7 (14 per cent.) showed histological evidence of tuberculosis.

Infection of thoracic glands from below.—The efferent trunks from the bronchial glands drain upwards, normally, into the angulus venosus, possibly having relationships with the efferents of the superior mediastinal and tracheal glands.

I have seen occasionally a large group of caseous glands situated behind the sterno-clavicular joint, and as frequently on the right side as on the left, involved in tuberculous caseation. These, I take it, correspond to the clavicular glands referred to by Beitzke, Hart, Most, and others. They also drain into the angulus venosus. This group may instead be the upper glands of the internal mammary chains which pass upwards behind the sternum on either side. Of these I can find no mention in the literature of tuberculosis. The efferents of these glands drain into the veins at the root of the neck, occasionally, as figured by Poirier, having junctions with the efferents from the bronchial glands. Their afferents come from the prepericardial glands, which lie along the anterior margin of the diaphragm, on its upper surface, and the afferents of these diaphragmatic glands come from the upper surface of the liver and from its hilic glands. I find tuberculosis of the prepericardial glands especially in extensive tuberculosis of the abdomen. These chains of glands afford a route for a spread of infection from the abdomen to the thoracic glands, and probably also to the pleura in addition to the recognised spread directly to pleura through the diaphragm. The following case is typical:—

Male, 17 months old. Ill for three months with diarrhœa and vomiting; fæcal fistula. Tonsils and deep cervical glands healthy, non-tuberculous. Isolated firm submaxillary gland on either side. General subacute adherent peritonitis; a few caseous mesenteric glands; retroperitoneal and hilic glands very large and caseous; semicircle of caseous glands above anterior margin of diaphragm; chain of internal mammary glands on either side of sternum, enlarged and caseous; large group of caseous glands behind the right sterno-clavicular joint Lungs and bronchial glands healthy, except for a few miliary grey tubercles. No tubercles in liver, kidneys, or spleen.

Other cases show, in the cervical region and thorax, only the group behind the sterno-clavicular joint tuberculous, with a varying amount of tuberculous change in the abdomen. It is well known that this group of glands frequently shows metastatic spread from carcinoma of the stomach, and the explanation advanced hitherto has been that the secondary invasion has taken place by retrograde transport from the thoracic duct. It seems extraordinary that the direct internal mammary route has been completely disregarded, particularly as its existence affords a much more satisfactory explanation. In exceptional cases I have found these superior mediastinal glands alone tuberculous, no disease being present in the organs or other lymphatic glands. Such cases are difficult of explanation.

Tuberculosis of the bronchial and root glands in relation to tuberculosis of the lungs.—Bartel regards the bronchial glands as especially susceptible to invasion by the tubercle bacillus. I have already referred to the view that this hyper-susceptibility is due to the circumstance that the bronchial glands are less trained in defence than the mesenteric glands, seeing that the latter, being associated with a hollow organ which is constantly full of bacteria, are constantly fighting against invasion by these bacteria, and are in consequence better trained to resistance.

Baumgarten and also Horton-Smith state that caseation of the bronchial glands is relatively infrequent in pulmonary phthisis, particularly in the adult. My own experience supports this statement. Köhler explains it on the ground that the lymphatic channels become obliterated by the chronic inflammatory processes going on to scar formation, which always accompany the more chronic forms of pulmonary tuberculosis.

Albrecht and Arnstein found either macroscopic or microscopic evidence of tuberculosis of the bronchial glands in 87 per cent. of cases between the ages of 6 and 16; and in 68 per cent. the disease was progressive. In relation to tuberculosis of abdominal glands, Rillet and Barthez found the relative proportion to be as 76 to 46; Guthrie, 54·5 to 26·6; Still, 81 to 59; Shennan, 65·4 to 53; Lapage and Mair, 55 to 71; Burkhardt, 58 to 30.

In 105 cases of tuberculosis undergoing post-mortem examination in the Royal Hospital for Sick Children, Edinburgh, between 1886 and 1889 the bronchial and mediastinal glands were found to be caseous in 82·8 per cent. In 308 tuberculous cases examined post mortem between 1889 and 1902 these glands were tuberculous in 62·9 per cent.; and in 111 cases dying from tuberculosis between 1910 and 1913 the same groups of glands were tuberculous in 54·9 per cent. The figures for these three periods thus show a progressive diminution, which accords with the general results given in Table I. Further, I may remark that this diminution, occurring along with a corresponding diminution in the death-rate from pulmonary phthisis, justifies my standpoint that both these manifestations of thoracic tuberculosis are in most cases sequels of an air-borne infection.

Taking the whole number of cases, the bronchial glands were caseous in 65·4 per cent. In a very high percentage of these cases there existed no older tuberculous change in the lungs, and I have formed the very decided opinion that in children in a very large proportion, possibly in the majority of cases, the spread of open tuberculosis of the lungs is rather from gland to lung than *vice versâ*.

There seems no reason to doubt that, as regards the original infection of the glands, the infective agent has reached them by way of the lungs, the tubercle bacilli being carried by phagocytes to the peribronchial lymphatics, along which they have then been carried to the bronchial glands, either with or without producing a primary tuberculosis of the lung or bronchus. One must also admit the possibility of a lymph-hæmic infection of the lungs and their regional glands, or of the glands alone by way of the lungs, from other parts of the body. The other routes by which an infective agent may reach the bronchial glands have already been considered.

Primary foci in the lungs.—We must now consider the question as to whether, in tuberculosis of the bronchial glands, an earlier lung focus exists in every case.

Goldschmid in his 595 cases found healed tuberculosis of the bronchial glands in 185 cases, against 272 cases in which there existed healed tuberculosis of the lungs without implication of the regional glands. In 5 per cent. of his cases there was isolated tuberculosis of the glands, and in 59 per cent. simultaneous tuberculosis of lungs and glands. Heinrich Albrecht and Anton Ghon are convinced that in every case an aerogenic infection is responsible for the primary lung focus which is always present, and is usually placed peripherally in the lungs. I have already referred to this view. Naegeli evidently regards all peripheral, slaty, scar-like areas in the lungs as of tuberculous nature and origin, whence his high percentage—almost 100 per cent.—of tuberculous infection in man. Burkhardt placed the figure at 91 per cent. Beitzke maintains that, unless caseous or calcareous alteration be present, it is a mistake to regard all these scars as of tuberculous nature, and lowers the percentage of tuberculous infection to 13·6, at ages 0 to 15 years, and to 58·2 per cent. in adults. Goerdeler also strongly supports this conclusion, and shows that disease processes other than tuberculosis can produce changes in the lungs extraordinarily like those of tuberculosis. Köhler maintains that by reason of the chronic inflammation always accompanying chronic lung tuberculosis the lymph vessels become obliterated, whence one may judge that he is of opinion that tuberculosis of the bronchial gland is not of necessity the sequel of the old lung infection denoted by these chronic foci; and I must say that I see no reason why they may not be due to a separate new infection in many cases. Preisich found tuberculosis of the bronchial glands in children of all ages, without demonstrable tuberculosis of the lungs. Hedrén regards the bronchial gland tuberculosis as invariably prior to the lung tuberculosis in the child; and Theodore Fisher looks upon measles and non-tuberculous broncho-pneumonia as acting like any other inflammation of the lungs by tending to facilitate a spread of tuberculous infection from the glands to the lungs.

Tuberculosis of the Lungs.

Very little really satisfactory has been determined in connexion with the localisation of tuberculous processes in the lungs.

Bacmeister and Rueben produced apical tuberculosis in rabbits by compressing the upper part of the lung and introducing small numbers of tubercle bacilli over a prolonged period of time. Orsós states that sub-pleural pigmentation is always greatest along lines corresponding to the intercostal spaces, and that in the same areas old scars of tuberculosis tend to be situated. Hence bacteria, like pigment, settle down in the lung where there is least movement and distortion of the vesicles. His conclusions may be correct, but his premisses are not quite accurate, to judge from my own experience, which agrees with that of Beitzke, Aschoff, and Marchand, and supports the view that pigment is first deposited along lines corresponding to the position of the ribs. This is most easily determined in cases of voluminous grey hepatisation in which the pleural surface of the lung is furrowed where it has been compressed by the ribs.

Benjamin Moore believes that the tubercle bacillus selects the least oxygenated parts of the lungs, and the observations of Serog support this view. He relates two cases in which compression of a main bronchus by an aneurysm had been followed by tuberculosis of the part of the lung served by that bronchus. Schmorl blames compression of the apical portion of the lung by the first rib, but Schmorl's furrow is not always present in apical tuberculosis. Hart and Freund believe that calcification of the first rib cartilage interferes with the function of the apical part of the lung and predisposes it to tuberculosis, but Schultze, Schiele, and Révész show that there is no evidence in favour of this, and maintain that the calcification of the first rib cartilage is rather a result of the firm adhesions which form over the apical portions of the lung. Certainly, judging from the almost invariable occurrence of this calcification after the mid-term of life in all cases undergoing post-mortem examination, and without in most cases involvement of the lungs, the relation of that condition to apical tuberculosis is, to say the least, doubtful.

We have to admit that the reason of the localisation of tuberculosis near the apices of the lobes is not yet clear, but it is probably in great measure related to some interference with the aerating function of these areas of the lung, and possibly partly to the tendency for particles conveyed in the respired air to settle down in the upper parts of the lung.

In children excavation may occur at any part of the lung, and almost as often in the basal areas as near the apices. It may be found at a very early age—for example, one of my cases was only 3 months old. Chronic tuberculous changes are not common in children, in whom the rule is to find rapid spread, with destructive changes and early generalisation. Nevertheless, evidences of resistance appear occasionally at an early age. Geipel found a tendency to localisation of tuberculous foci as early as the third month and calcification at the sixth month. I myself have found an old cavity at 5½ months, old, hard, caseous foci in the lung at the fourth month, chronic tuberculous pleurisy at the fifth month, and calcification of bronchial glands at the ninth month.

Hilus phthisis.—It seems to be quite certain that in some cases direct spread takes place from caseous root glands to the lung. Hilus phthisis is one of the results. Steffenhagen, Leon, Leslie, Jordan, and others, have discussed the question, and all pathologists have seen such cases. Geipel speaks of some cases of pulmonary tuberculosis as having the aspect of an aspiration infection. Erich Sluka with the aid of the X rays demonstrated its presence in 37 cases, and Jordan and Leslie confirm the usefulness of this means of diagnosis. It is apparently fairly satisfactory, but I must point out that Geckler found no tuberculous change at the post-mortem examination of a case in which hilus phthisis was diagnosed during life, with the help of the X rays.

Other Manifestations of Tuberculosis in Man.

I have dealt so fully with the manifold aspects of tuberculous infection of the thoracic organs that I have space for only a few remarks upon tuberculosis of the other organs and parts of the body. There is no room for doubt that in Edinburgh we meet with a larger number of primary alimentary infections than are found in most other parts of the world. Sims Woodhead, John Thomson, Fordyce, Fraser, Mitchell, McNeil, and I myself have published data proving this, so that I need not labour the point.

Intestinal tuberculosis.—In this connexion I have only one or two points to bring forward.

(*a*) When a recent tuberculous manifestation is found in the wall of the intestine, in association with older caseous tuberculosis of the mesenteric and retroperitoneal glands, one frequently concludes that the intestinal condition is secondary to the tabes mesenterica, retrograde infection having occurred. This conclusion is of questionable validity, the more plausible explanation being that the recent intestinal tuberculosis is really due to a new infection by organisms which have reached the bowel by deglutition, at a later period of time than those which have passed through its walls without causing a local lesion, but have been caught in the glands, and have produced caseation in that situation.

(*b*) In a case which I examined post mortem of cicatrising tuberculous ulceration near the commencement of the jejunum signs had been present during life of hypertrophic pyloric stenosis. The stomach was dilated and the pylorus was thickened; the duodenum was also dilated and its muscular coats were somewhat hypertrophied; but the ultimate cause of the symptoms and of these appearances in stomach and duodenum was as I have stated.

No new facts have emerged in connexion with *hyperplastic ileo-cæcal tuberculosis*, and I have nothing to add to what is already known about that manifestation of tuberculosis.

Fischer has made interesting observations on the channels along which invasion takes place from the alimentary tract. He shows that the blood route by way of the mesenteric veins is very seldom taken, but that invasion takes place as readily by way of the portal vein as by way of the lymphatics and thoracic duct. The liver acts as a bacterial filter (Weigert), but few of the bacilli caught in it produce serious lesions.

Meningeal tuberculosis.—It seems to be generally accepted that the usual channel through which the meninges are attacked is the blood stream. This is almost certainly correct, seeing that in the majority of cases an acute meningeal tuberculosis forms part of a generalised tuberculosis. But though it is not the usual route, as was taught by Greenfield, the lymph channel is not excluded. I have followed such cases during life and have found evidence post mortem that this route is sometimes taken.

Tuberculosis of bones and joints.—In a recent communication Stiles stated the case with regard to tuberculosis of bones and joints with admirable clearness. In tuberculosis of bones and joints infection practically always occurs by way of the blood stream; in a large proportion of cases the primary focus being situated in the lymphatic glands, especially the deep cervical, the bronchial, and the mesenteric. The localisation in the *bones* is determined by the distribution of the intra-osseal blood-vessels, and in children is most often in the growing end of the diaphysis (metaphysis), the end of the bone affected being determined by the direction of the nutrient artery. In the *joints* occasionally the synovial membrane *is primarily* attacked, for example, in the knee; but extension more often takes place from bone. The joints which possess small epiphyses—for example, the elbow and hip, in which therefore the diaphysis is near to the joint—are more readily and earlier attacked than others. In the rare cases in which the disease begins in the epiphysis it does so because these are large and begin to ossify at an early age.

In Scotland a large proportion of surgical tuberculosis is of bovine origin. The work of John Fraser is now well known. Of the 67 consecutive tuberculous bone and joint cases which he investigated the bovine bacillus was present in 41 (61 per cent.), the human bacillus in 23 (34 per cent.), while in 3 cases the bacilli were of intermediate type. In 41 of the children who were under 4 years of age 78 per cent. had been infected with the bovine bacillus. *In all of those under 12 months of age* the bovine bacillus was the cause of the disease, and every one of these had been entirely nourished on unsterilised cow's milk. For other interesting details one must refer to Fraser's paper. The important paper by Burkhardt is also well known. He investigated 29 cases of tuberculosis of bones and joints, and found the bovine bacillus in 3 cases only—ages 11, 14, and 19. Only 2 of his cases were under 3 years of age.

I regard the work of these two investigators as not necessarily contradictory, but instead they may be mutually complementary, seeing that the average age in Fraser's cases is 5½ years, whereas in Burkhardt's cases the average age is 15 years. I prefer, however, to regard their differing and apparently discordant results as affording one more proof of the prevalence of bovine infections in Scotland to a greater extent than is the case in other parts of the world, even in England—a fact that has been well recognised for some time by a few workers in Scotland. I therefore conclude that the relative frequency of bovine and human infections of bones and joints depends upon the relative frequency of bovine and human infections in general. Hence it is not surprising, but on the contrary, it is to be expected, that in those parts of the world in which human infections predominate greatly a larger proportion of cases of tuberculosis of bones and joints are due to infection with that bacillus than in parts—e.g., Scotland—where bovine infections are more frequent.

This argument suggests to me an interesting and very important point in connexion with *pulmonary tuberculosis* in children. If the conditions be as I have just stated, then the same reasoning should be applicable to tuberculous infections of the lungs and regional glands, and, provided it be the case that in children a lymph-hæmic invasion of the lungs can occur, then in pulmonary tuberculosis in children in Scotland we ought to have a larger proportion of bovine infections than elsewhere. It will be interesting to see if investigations just entered upon will show the validity of this argument. The great difficulty which will be encountered in such investigations is in connexion with the more chronic lesions in the lungs, because from previous work to which I have already referred the bovine tubercle bacillus, on long residence in the body, while retaining many of its characteristics, tends to lose its virulence, which after all furnishes one of the most important means for determining its identity. Nevertheless, it is hoped that in children this difficulty may prove less troublesome than is anticipated.

The Histogenesis of the Tubercle.

Joest and Emshoff found that the earliest changes in experimental animals is a proliferation of cells of connective tissue type, but most observers seem to agree with Baumgarten's original view that both connective tissue and endothelium are involved, and that the lymphocyte aggregation at the periphery of the tubercle is not essential, but is an indication of later chemotactic action. The method of formation of the giant-cell of tubercle is not yet settled. Most are in favour of its being due to a coalescence of endothelioid cells, but many still maintain that it is due to excessive proliferation of the nucleus of a single cell without the protoplasm participating in the cell division. Probably both methods are at work, though I believe that the former is the commoner.

Conclusions.

1. In Scotland the maximum death-rate from tuberculosis occurs during the 25–35 age-period; in England during the 35–45 period.

2. In Scotland the maximum percentage death-rate from tuberculosis calculated on the number of deaths from all causes, at each age-period, occurs in the female during the 15–20 age-period, and in the male during the 20–25 age-period. The percentage of deaths from tuberculosis in females during the 15–20 age-period is 52·69.

3. The death-rates from tuberculosis in different towns and cities in Scotland bear no clear relationship to the number of inhabitants or to the density of population. Other factors must be involved.

4. Hypersensitiveness due to a primary infection is probably of great importance in relation to reinfections. Reinfections arise not necessarily from a previous focus in the body, but must frequently be new infections from without.

5. The majority of cases of tuberculosis of the lungs and their regional glands are the result of aerogenic infection.

6. Retrograde infections do occur.

7. There is no evidence in favour of a spread by direct continuity from the deep cervical glands to the lungs.

8. The right lung and its regional glands are more often the seat of tuberculosis than the left.

9. In children manifest tuberculosis of the lung is very frequently a sequel of tuberculosis of the bronchial glands.

10. Little satisfactory is known of the factors which determine the localisation of the disease in the lung.

11. Chronic fibro-caseous tuberculous foci in the lungs and caseation of the related bronchial glands may be caused by separate infections.

12. In Scotland bovine infections in childhood are commoner than in most other parts of the world.

13. The relative frequency with which bovine or human infections occur in any given organ or tissue, and the differing incidence of these infections in different localities, depend on the relative general frequency of infections with these two types of the tubercle bacillus. This differs in different localities.

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Edinburgh.

THE WOMEN'S IMPERIAL HEALTH ASSOCIATION.—According to the fourth annual report of this association (1913) the chief feature of the year's work has been the encouragement given by the association to the establishment of schools for mothers. This has involved some curtailment of efforts in other directions, such as lectures and caravan tours. An entertainments committee has been formed to provide musical and dramatic entertainments at drawing-room "At Homes." Representatives of the association have been present at the conferences of several kindred organisations. The distribution of literature has been continued. The exhibit of model clothing for infants and children at the Children's Welfare Exhibition in January last excited so much interest that it has been sent on tour. Its purport is to show how money can be spent to the best advantage on clothes. The association now possesses three kinematograph machines, and has made several additions to its films. The Florence Nightingale Caravan made its summer tour through Kent in June, while the London Parks Caravan visited Tooting, Clapham, Streatham, Wandsworth, and Brockwell Commons, and Battersea Park. Considering the amount and variety of excellent social work done by the association it is regrettable to learn that there has been a considerable falling-off in the income of the association during the past 12 months.

THE SIGNIFICANCE OF DIABETIC FAMILY HISTORY IN LIFE ASSURANCE.[1]

BY OTTO MAY, M.D. CANTAB., M.R.C.P. LOND.,
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IT is a commonly accepted belief that diabetes is in many cases a "family disease"—i.e., one which is prone to occur in several members of certain families in greater proportion than would be expected if its distribution were uniform throughout the population. If this be so, it becomes a question how far, if at all, one or more deaths from diabetes in a family history should influence our recommendation on the proposed life. From the actuarial point of view the proper method of investigation would be the comparison of the mortality table from a very large number of such proponents with that from an equal number of "controls"—cases chosen at random. Strictly speaking, the actuary is not concerned with the question of the family nature of the disease; his inquiry is whether such a family history increases the mortality from all causes—diabetes, consumption, senile decay, &c., and the investigation just suggested would afford him this information. The present paper, however, is a much less ambitious affair; it represents merely an attempt to see how far a family history of diabetes may be held to signify an increased risk of the proponent's death from the same cause. While this limitation will impair its value to the actuary, I trust that it will not render it unacceptable to the physician.

During the decade from Jan. 1st, 1901, to Dec. 31st, 1910, the total death claims in the "Ordinary Branch" of the Prudential Assurance Company numbered 76,333. Of these, the deaths from diabetes numbered 1143, or 1·49 per cent.[2] The family histories of these 1143 cases showed a death from diabetes in 41—i.e., 3·6 per cent. A control investigation of 1143 other cases, picked at random from the same period, showed a "positive" family history only in 12 cases—i.e., 1·05 per cent. These figures must be taken as the *minimal* rather than the actual ones. No case was included unless the word "diabetes" or "diabetic" figured in the history sheet. A fair number contained causes of death, such as "gangrene of the legs," "carbuncle," &c., of which a considerable proportion were probably diabetic. These were, however, excluded. On the other hand, it is extremely improbable that diabetes would be wrongfully given as a cause; almost alone among diseases, the ultimate confirmation of the diagnosis by a simple chemical test makes a positive statement exceptionally reliable.

The following figures for the parents of the two sets of 1143 cases are interesting as showing the vagueness of the histories:—

—	Parents living.	Parents died from some stated cause.	Parents dead, cause unknown, or senile decay.	Total.
Diabetic... ...	832	893	561	2286
Control	781	1066	439	2286

Among the 41 cases in which the history was "positive" there were two family histories of special interest, as follows:—

1. Two brothers (twins), aged 22 years, both unlicensed grocers, proposed for endowment assurance in October, 1901. Family history: Father, 64, healthy; mother, 63, healthy; two sisters living; one brother died from diabetes, aged 10 years. The proposals were accepted at tabular rates. Both brothers died from diabetes—one in January, 1909, aged 30; the other in September, 1910, aged 31.

2. Two brothers—one, aged 22, a carter, and the other, aged 17, a coachman—proposed for endowment assurance in 1902. Family history: Father, 52, healthy; mother, 48, healthy; three brothers living; seven sisters living; one brother died from diabetes, aged 11. The proposals were accepted at tabular rates. Both brothers died from diabetes—one in 1911, aged 26, and the other in 1912, aged 32.

Age at death.—Of the 1143 cases the family history, as mentioned above, was "positive" in 41, "negative" in 1102. Below I have arranged the ages at death of these two groups in decades for comparison and contrast:—

Years of age at death.	Diabetic family history.		No diabetic family history.	
	Number.	Per cent.	Number.	Per cent.
Under 20	—	—	3	0·26
21–30	8	19·5	74	6·71
31–40	14	34·1	155	14 07
41–50	5	12·2	196	17·80
51–60	5	12·2	333	30·25
61–70	7	17·1	251	22·80
71–80	2	4·9	84	7 61
81–90	—	—	6	0·50
Total	41	100	1102	100

Among the "positive" cases the percentage under 41 was 53·7, and among the "negative" cases it was 21.

The striking feature of this table is the large proportion (53·7 per cent.) of early deaths in the "positive" cases, in comparison with those (21 per cent.) in the "negative" ones. The probable explanation is that diabetes includes at least two different groups of cases: (1) A group in which the incidence is in middle or later life, the course comparatively mild, and the "family" factor absent; and (2) a group characterised by earlier incidence, more rapid termination, and a tendency to run in particular families. In the present series those with a negative history contain a preponderance of the former type, while those with a "positive" history include a large proportion of the latter type.

Influence of sex.—In the 41 cases with a "positive" history the affected member of the family and the average age of death of the corresponding proponents are shown in the annexed table:—

	Number of cases.		Average age of proponents at death.
Father diabetic	14	....	39 4
Brother ,, ...	13	....	38·5
Mother ,, ...	7	....	54 0
Sister ,, ...	7	....	50·0
Total	41	....	43·4

The striking feature here is the apparently great difference in the age at death according as the affected relative was male or female. Of the 41 "positive" case, 36 were male and 5 female, as follows:—

	Male.		Female.
Father diabetic	13	....	1
Brother ,, ...	11	....	2
Mother ,, ...	6	....	1
Sister ,, ...	6	....	1
Total	36	....	5

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[1] Part of a paper read before the Life Assurance Medical Officers' Association on March 4th, 1914.

[2] The actual percentage is really higher, as 1143 represented the number of deaths from diabetes, while 76,333 was the number of policies, representing a smaller number of individuals.

Of the 36 males the average age at death was as follows:—

	Number of cases.	Average age at death.
Father or brother diabetic	24	38·3
Mother or sister ,, ...	12	49·3
Total	36	43·0

Of the 5 females the corresponding figures are:—

	Number of cases.	Average age at death.
Father or brother diabetic	3	43·6
Mother or sister ,, ...	2	68·0
Total	5	53·4

Without attempting to dogmatise on such comparatively slight data, one cannot help suspecting that the hereditary factor comes out more strongly in the male—that the death from diabetes of a father or brother is more ominous than that of a mother or sister, and that the male is more likely to suffer from "family" diabetes than the female. Unfortunately, the sex was not shown in every one of the 1143 cases investigated, so that one cannot say whether 36 to 5 represents an undue proportion of males among those with a diabetic family history. It is, however, interesting to see that, so far as they go, the Registrar-General's returns for 1911 bear out the relatively greater incidence of diabetes at younger ages in the male sex.

	Total deaths from diabetes.	Deaths at 40 or under.	Percentage.
Male	1936	462	23·8
Female	1917	400	20·8

The above analysis therefore suggests (1) that there is a form of "family diabetes" tending to occur at an earlier age, and proving fatal more rapidly than the ordinary "acquired" type of the disease; and (2) that this family diabetes is more likely to occur in the male than in the female.

I should like to take this opportunity of expressing my thanks to the Board of Directors of the Prudential Assurance Company for permitting me the use of the claims dealt with.

THE PATHOLOGICAL CHANGES OF THE THYROID IN DISEASE.*

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IN a publication on hyperthyroidism[1] it was shown, as was to be expected, that thyroid hyperplasia was not produced by thyroid feeding. In another paper[2] a hyperplasia was demonstrated in diseases such as infantile diarrhœa, measles, &c., and that it could be artificially induced in guinea-pigs by the injection of diphtheria toxin. Hale White[4] first pointed out if a large series of thyroids were examined they would be found to vary greatly. This was confirmed by Simpson,[5] who described thyroid changes in certain acute disease, and by Marine and Lenhart,[7] who examined a series of 73 from various conditions. No attempt has ever been made to separate the diseases according to their action on the thyroid.

The object of this paper is to point out those diseases and toxæmias that do, and those that do not, produce an alteration in the thyroid, to describe and demonstrate these changes, to compare them with those seen in goitre, and to note when they become associated with signs of thyroid excess. The work is based on some 700 thyroids obtained from post-mortem examinations during the last five years, together with some from guinea-pigs after inoculation. There is no wish to be dogmatic from the appearance of single sections, and doubtful ones have been as far as possible eliminated. It is proposed to take the micro-organisms in alphabetical order.

Bacilli.—B. aerogenes capsulatus: Nothing can be said with certainty from the thyroids obtained from 2 cases of spreading traumatic gangrene taken 36 hours and 4 days after infection. B. anthracis: The thyroids obtained from 5 guinea-pigs after inoculation showed a complete hyperplasia with intervesicular hæmorrhage. The change took place within 2 days. B. coli communis: 3 guinea-pigs received 2 intraperitoneal injections 16 days and 24 hours before death—total colloid absorption, marked cell hyperplasia, and intervesicular hæmorrhage were found. B. coliformis: Cultures of this organism, first described by McCarrison,[6] were obtained from a patient with endemic goitre. The organism merely decolourises sucrose-litmus and produces no indol. The induction of a coliform septicæmia produces total colloid absorption and cell hyperplasia. B. *diphtheriæ*: *The thyroids from 8 cases show stages of a complete hyperplasia and will be described in full later.* B. *dysenteriæ*: Emulsions of Shiga's and Flexner's organisms were injected into 6 guinea-pigs; an acute hyperplasia was produced. From 9 cases of asylum dysentery it was found that colloid absorption occurred after the fifth day, and that later a complete hyperplasia was produced. B. Gaertner: An active hyperplasia was found in 12 cases of infantile diarrhœa, the degree of which varied with the duration of the disease. B. mallei: 3 guinea-pigs were inoculated with glanders and a complete hyperplasia was found in 24 hours. B. tetani: 3 guinea-pigs were inoculated with tetanus and an acute hyperplasia was found; this in borne out by a thyroid from a child 12 days after an injury and 4 days after tetanic convulsions. B. tuberculosis: The thyroid changes have been gauged from 48 cases; the acute miliary causes a complete hyperplasia, the chronic a colloid hyperplasia. B. typhosus: Practically no change was found in 2 cases, 4 weeks and 9 weeks after infection.

Cocci.—Gonococcus: No change was found in 2 cases, one of which died from an injury, the other from lobar pneumonia. Meningococcus: A slight colloid hyperplasia was found in 2 cases that died on the twelfth and forty-second day respectively. Micrococcus catarrhalis: An acute hyperplasia was produced in 3 guinea-pigs by intraperitoneal injections. Micrococcus melitensis: The thyroids varied from a complete to a colloid hyperplasia in 12 Maltese goats whose serum reactions were positive. Pneumococcus: The thyroids from 39 cases of pneumonia varied according to the type and cause of infection. Lobar pneumonia *produces* no change, whilst broncho-pneumonia may cause a complete hyperplasia. Staphylococcus: In 8 cases of septicæmia due to pyogenes aureus or albus no thyroid reaction was present. Streptococcus: The thyroids from 41 cases of streptococcic septicæmia and other streptococcic *infections* show no change, *with the exception of those from cases of* scarlet and rheumatic fevers; the changes in these diseases may be due to other micro-organisms. Acute surgical infections are found to have no *effect* on the thyroid.

Protozoa.—Coccidiosis: No change was found in rabbits affected with coccidium. Spirochæta pallida: The thyroids from 19 cases of general paralysis of the insane and other late syphilitic affections show some intervesicular fibrosis. Malaria (blackwater fever): The thyroid from 1 case of five days' duration shows granulation and partial absorption of the colloid.

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* A paper read before the Pathological Section of the Royal Society of Medicine on Feb. 17th, 1914.

Streptothrix.—Actinomycosis: Thyroids from two cases, one of eight and a half months' and one of four months' duration, show a colloid hyperplasia.

Diseases due to unknown organisms.—Measles: The thyroids from 8 cases show a complete hyperplasia. Acute anterior poliomyelitis: The thyroid from 1 case shows a mild chronic hyperplasia. Polyserositis: A thyroid from 1 case of polyserositis shows no change. Small-pox: Changes have been described by other observers. Whooping-cough: Extreme hyperplasia was found in 3.

Malignant disease.—The thyroids from 31 cases of sarcoma and carcinoma show no reaction except those in which death occurred from some complication capable of producing a thyroid change.

Gland diseases.—Addison's disease: The thyroids from cases of Addison's disease were found to vary according to the infection that produced the disease. In cases due to tuberculosis they vary with the extent of the tuberculosis situated elsewhere. The absence of suprarenal secretion appears to produce no thyroid change. Cirrhosis of the liver: The thyroids from 6 cases show cirrhosis of the thyroid with complete hyperplasia. Diabetes: In 3 cases no thyroid change was found. Jaundice: This disease produces no thyroid change. Diseases of the kidney: Renal disorders, either acute or chronic, are not necessarily associated with thyroid changes, though these may occur.

Blood diseases.—No thyroid change was found in a case of lymphadenoma, nor in a case of lymphatic leukæmia, but a colloid hyperplasia was found in pernicious anæmia.

Artificial toxæmias.—Injection of 0·0000025 grm. of ricin and 0·000025 grm. of abrin into six guinea-pigs causes an acute hyperplasia; a similar hyperplasia has been produced in some 50 guinea-pigs by injection of diphtheria toxin.

From these observations it is found that the thyroid changes are dependent on the amount, virulence, and duration of the toxæmia. The diseases and toxæmias may be divided into three groups; in the first are those that produce no effect on the thyroid, in the second those that produce a colloid hyperplasia, and in the third those that cause a complete or acute hyperplasia.

Group 1. Diseases that Produce no Effect.

Bacilli: Typhoid.

Cocci: Gonococcus (?), pneumococcus, staphylococcus aureus, staphylococcus albus, streptococcus equinus, streptococcus fæcalis, streptococcus puerperalis, streptococcus rheumaticus, acute surgical.

Protozoa: Coccidiosis.

Diseases due to unknown micro-organisms: Polyserositis, carcinoma, sarcoma.

Gland diseases: Addison's disease, diabetes, jaundice.

Blood diseases: Lymphadenoma, lymphatic leukæmia.

Group 2. Diseases that Induce a Chronic or Colloid Hyperplasia.

Bacilli: Coliform (chronic in man), tuberculosis (chronic)

Cocci: Micrococcus melitensis (goats), meningococcus (slight).

Protozoa: Syphilis (tertiary).

Streptothrix: Actinomycosis.

Diseases due to unknown micro-organisms: Acute anterior poliomyelitis, rheumatic fever, scarlet fever.

Gland diseases: Chronic nephritis.

Blood diseases: Pernicious anæmia.

Group 3. Diseases that Produce a Complete or Acute Hyperplasia.

Bacilli: Aerogenes capsulatus (?), anthrax, coliform (acute guinea-pigs), diphtheria (man), diphtheria toxin (horses, guinea-pigs), dysentery (asylum), dysentery (Flexner), dysentery (Shiga), Gaertner, mallei, tetanus, tuberculosis (acute).

Cocci: Micrococcus catarrhalis.

Protozoa: Syphilis (secondary), malaria.

Diseases due to unknown micro-organisms: Measles, broncho-pneumonia, small-pox, whooping-cough.

Gland diseases: Chronic nephritis, cirrhosis of liver.

Artificial toxæmias: Abrin, ricin, diphtheria toxin.

From tuberculosis one concludes that the toxæmias of Group 3, when mild in character, may produce a colloid instead of a complete hyperplasia; but no alteration in Group 1 can enable them to have the effect of either Group 2 or 3.

Diphtheria may be taken as an example of the acute toxæmias that act on the thyroid. The stages of the production of acute hyperplasia were illustrated by four thyroids taken from cases dead on the fourth, seventh, seventh, and twelfth days. The colloid becomes granular and then finally disappears, the walls of the vesicles become infolded, the outline indistinguishable, and the cells columnar in shape. The thyroids of the acute infections can be arranged in order; the degree of hyperplasia corresponds to the duration of the disease.

The involution of acute hyperplasia can be seen from specimens obtained after injection of sublethal doses of toxin or micro-organisms into guinea-pigs and of diphtheria toxin into horses. The vesicles are reformed by the direct transformation of the cells into colloid; they are small at first, but as fresh colloid is formed they enlarge and the cells become flattened; extravasated blood is transformed into fibrous tissue. At the termination of the process there is destruction of tissue with fibrosis. The fibrosis is the most marked feature after an acute hyperplasia, but excessive colloid formation after complete hyperplasia.

Production of colloid hyperplasia.—A complete thyroid circle can be traced over a period of years from cases of tuberculosis. Six thyroids were demonstrated on one slide and the contrast shown of the complete hyperplasia produced by miliary tuberculosis and of the colloid hyperplasia by the chronic. Three stages may be described in colloid hyperplasia. In the first the vesicles are small in size and the colloid coarsely granular with cell proliferation; in the second the vesicles are of unequal size and packed with colloid; the cell proliferation is squeezed up between them; finally the thyroid becomes cirrhotic with deficiency of thyroid tissue. Colloid hyperplasia is found in three separate conditions: during the involution after an acute toxæmia, during the production and the involution after chronic toxæmia.

Comparison with goitre.—There are two main differences between the hyperplasias of the toxæmias and those of goitre: one the hyperthyroidism of exophthalmic goitre when compared to the complete hyperplasias of the toxæmias; the other the alteration in size seen in endemic goitre as compared to that of the chronic toxæmias.

Repeated and double toxæmias.—Repeated injections of diphtheria toxin lead not only to the production of thyroid hyperplasia, but also to the formation of antitoxin. From observations on 15 horses it was found that the hyperplasia decreased as the antitoxic value of the serum increased. (A full account has already appeared in THE LANCET.[5]) This can be applied to the extent of saying that it is probable that the toxæmias that are counteracted by the formation of antitoxin only produce a thyroid hyperplasia when antitoxin is absent or deficient. Guinea-pigs were inoculated with a second toxæmia before recovery was complete from the first; it was found that there was an increase in the hæmorrhagic hyperplasia. The supervention of miliary tuberculosis on chronic is an instance of an acute toxæmia acting on a chronic; the extreme hyperplasia produced in such a case was shown; the case developed exophthalmos before death. Cirrhosis of the liver is an example of a subacute toxæmia that develops on a chronic at the onset of ascites; exophthalmos was present in 10 out of 12 cases. (A photograph of bilateral exophthalmos in a case of cirrhosis was shown, also the complete thyroid hyperplasia.) Barker[8] and Levison[9] have noted the occurrence of exophthalmos in cases of interstitial nephritis. These examples of the occurrence of exophthalmos are of importance in that they serve to bridge over the gap between the thyroid changes and hyperthyroidism of the toxæmias and those of goitre. These considerations enable one to trace the effect of the diseases on the thyroid from birth upwards, and lead to the prevention, production, and cure of certain thyroid conditions.

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Queen Anne-street, W.

CASE OF ACUTE SUPPURATIVE APPENDICITIS COMPLICATED BY GANGRENE OF THE ILEUM.

BY BASIL HUGHES, F.R.C.S. ENG.

GANGRENE of the ileum complicating acute appendicitis is rare. This is the first case it has been my lot to encounter from a large number of acute inflammatory conditions of the appendix, and I cannot recollect or find any recorded cases other than that described by Dr. Joseph Wiener, of New York, in the *Annals of Surgery* for December, 1912. The following is my case.

The patient, a married woman aged 42, was suddenly seized with acute abdominal pain while taking a holiday in October last. She had never experienced a similar attack, and had up to the onset of the pain enjoyed good health. She went to bed, her bowels moved normally, and with fomentations and rest the pain, which was now localised to the right iliac fossa, subsided sufficiently to allow of her return home. She vomited at the onset and ascribed her condition to some food she had taken. On returning home, five days after the onset, she was seen by Mr. R. P. Woodroofe, of Eccleshill, who diagnosed a condition of acute appendicitis. Her temperature was then 101° F. and pulse-rate 94, her tongue was furred, and there was tenderness over McBurney's point, with some rigidity of the muscles covering the lower right quadrant of the anterior abdominal wall.

On the following day her temperature rose to 102°, the pulse-rate was 110, and in the afternoon I saw her in consultation with Mr. Woodroofe. There was now a definite tender swelling in the right iliac fossa; the rigidity was not very marked as the patient had had opium. The bowels were moving, the motions being very relaxed and containing mucus. There was tenderness on pressure in the right loin. The tongue was furred, and the patient looked sallow and toxic. A vaginal examination revealed some indefinite fulness high up in the right fornix. I advised immediate operation, but this was refused. Her condition became more grave, and I was called in to see her again 48 hours later. The pain and rigidity had now extended higher up on the right side, and the tenderness to pressure in the right loin was more pronounced. The pulse-rate had risen to 140 and was thready in quality. The tongue was dry and more furred. The abdomen was now distended, the tenderness was more general, and vomiting had commenced. The patient presented an abdominal facies and looked very ill.

Operation was consented to and was done forthwith. The tenderness in the loin suggested a retrocæcal position of the appendix, and under gas and ether anæsthesia the abdomen was opened through the right rectus muscle by an incision starting as high up as the umbilicus and extending downwards for about 4½ inches. A small quantity of seropurulent and inoffensive fluid escaped, and on further investigation the cæcum was quite fixed, very injected, and was bulging forwards very prominently, fluctuation being obtained across it. On the ileum about 4 inches from the ileocæcal junction there were two grey patches, one about the size of a large pea, the other slightly smaller. While examining these patches one of them gave way, gas and a small quantity of small intestinal contents escaping. This was rapidly mopped up, and both these patches were buried with Lembert sutures.

The small intestine was now packed off and the cæcum isolated. On its anterior surface was a gangrenous patch the size of a small pea. While investigating the cæcum a large retrocæcal abscess, containing very foul-smelling pus and gas, was opened. The appendix, which was gangrenous, was adherent to the posterior cæcal wall and was removed. Profiting by two somewhat similar cases of retrocæcal abscess I further explored this space and came upon a second abscess cavity which was extending around the right kidney. Being satisfied that this was the limit of spread of the pus, a large rubber drainage-tube was inserted high up through both abscess cavities; the second and smaller tube was inserted just down to the buried patches on the ileum. No lumbar drain was used. The gangrenous patch on the cæcum was buried with Lembert sutures, and the abdominal wall closed with through-and-through sutures of stout silkworm gut. The patient was given rectal salines and sips of water by mouth.

All went well for seven days, at which period the patient was taking milk, beef-jelly, and soups. After an enema on the seventh day some fæcal material was discharged from the tube draining the retrocæcal space. The other tube had been taken out. This small fæcal fistula persisted and was present when the patient went home five weeks after the operation, though most of the fæcal current was going the right way.

This case is of interest as it tends to support Dr. Wiener's theory that ileal gangrene in these cases is embolic. In my case the ileum did not enter into the formation of the abscess wall as it did in his; the abscess was entirely retrocæcal and the pus was pent up under considerable pressure. There was only a small quantity of inoffensive sero purulent fluid around the portion of the ileum that was gangrenous There was no further trouble with the small intestine after these two patches had been turned in. The buried patch on the cæcum evidently gave way, or perchance the cæcum perforated in another place.

This case, like two somewhat similar preceding cases of retrocæcal abscess, shows how undesirable it is to be content with stopping short after the pus is reached Retrocæcal abscesses have in my experience shown themselves to be often multilocular, and the failure to recognise this may explain how some of these cases progress to perinephritic and subdiaphragmatic abscess formation after what has apparently seemed a satisfactory operation In these three cases of retrocæcal abscess the patients had diarrhœa with the passage of mucus in the stools This may be that the cæcum itself is acutely inflamed through being adherent to a gangrenous appendix—in other words, a true condition of acute typhlitis existed

Bradford

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION OF MEDICINE

Paroxysmal Tachycardia in a Child —Secondary or Symptomatic Leukæmia

A MEETING of this section was held on Feb 24th, Dr PERCY KIDD, the President, being in the chair

Dr ROBERT HUTCHISON and Dr JOHN PARKINSON communicated a paper on a case of Paroxysmal Tachycardia in a child aged 2¾ years Dr Hutchison said that a case of this condition had not hitherto been described in so young a child When admitted into hospital he looked healthy, but the heart was rapid, the neck was pulsating, and a pulsating liver was felt The symptoms had been present for ten days There was nothing of significance in either the family or the personal history Two days later the child appeared quite normal and the liver had receded He knew of no other cardiac condition which could be accompanied by this sudden cessation of symptoms Three days later, after sitting up in bed, the patient suddenly developed another attack A similar clinical picture reappeared, the pulse rate being 245 per minute This attack lasted 20 hours and ceased as abruptly as the former During the next 10 days the child was perfectly well, the pulse rate being 64 to 80 per minute, and the tracings showing merely a sinus arrhythmia He was then discharged from hospital From this time (June 26th, 1913) until Sept 22nd, 1913, he remained well On that day a third attack began, which lasted for 12 hours, the pulse rate being 215 per minute A fourth attack occurred on Oct 3rd, the pulse rate on this occasion being 213 The child appeared cheerful and no abnormal signs were seen beyond the rapid pulsation in the neck and over the præcordia The liver was not enlarged This attack lasted 48 hours There had been no relapse since The Wassermann reaction was negative Dr Parkinson demonstrated the cardiograms which had been taken and which bore out the diagnosis —Dr G A SUTHERLAND said that the chief interest lay in what would happen to the child in later years He supposed that in this case, apart from the tachycardia, there was no other heart disease, and he thought it important that a distinction should be drawn between cases of paroxysmal tachycardia accompanying diseased conditions of the heart and those with a normal heart Before paroxysmal tachycardia had been investigated by recent methods it had been ascribed to excessive use of tobacco, alcohol, or tea factors which could not play any part in this case He showed three cardiograms of the condition, one of which was taken from a child aged 9 He considered that the auricle contracted while the ventricle was still in a state of contraction, this explaining the large venous wave demonstrable in the tracings, and also the large pulsating liver He had observed all the symptoms of cardiac failure result from a disturbance of rhythm, the musculature of the heart being apparently normal In that case, one of a child, he gave 45 minims of digitalis every day for 19 days, the heart slowed down and had acted well since His object had been to produce some degree of heart block and poisoning of the ventricle, so that the latter could not react to the unduly frequent auricular stimuli —Dr ALEXANDER MORISON did not think that they were in a position to say that the frequency originated in the auricle, for if so digitalis would influence it, as it did in auricular fibrillation, which Cushing had shown was not the case His own view was that it originated in the ventricle —The PRESIDENT recorded a case in a boy, aged 4½ years, who had suffered from attacks of blueness after contracting measles at the age of 2 They recurred about once a month and subsequently attacks of vomiting ensued In one of these a very rapid pulse had been noticed with enlargement of the heart and liver, and the condition had suddenly returned to normal In a later attack the pulse rate was 240 and the liver enlarged, but the child was perfectly happy and comfortable The pulse rate was not influenced by digitalis Vomiting occurred and caused a slowing of pulse At one time there had been a rapid pulse rate for six months without subjective symptoms He then became worse, with œdema, dyspnœa, and cyanosis and died suddenly Post mortem dilatation of the whole heart was found, with slight hypertrophy of the right ventricle and left auricle, but no valve lesion The case occurred before the advent of the new cardiographic methods and before the importance of the microscopical examination of the neuro muscular bundle and nodes was recognised

Dr G R WARD read a paper on Secondary or Symptomatic Leukæmia

SECTION OF DERMATOLOGY

Exhibition of Cases

A MEETING of this section was held on Feb 19th, Dr J H STOWERS, Vice President, being in the chair.

The following cases were exhibited —

Dr E G GRAHAM LITTLE 1 A case of Extensive Congenital Milium on the face neck, and body of a baby aged 4 months 2 A woman who presented large and small Patches of Atrophic Skin on the neck and shoulders, she had been seen by Sir Jonathan Hutchinson and by Dr J F Payne 15 years ago when the condition was designated "lardaceous disease of the skin" by the former and "papyrus skin' by the latter 3 A little girl with Favus of the Glabrous Skin of the Neck A perfect favus "cup" had been present and cultures showed the fungus to be the achorion quinckeanum There were no mice in the patient s house but two cats and seven canaries were kept, the father being a bird fancier The scalp was not affected —Dr J H SEQUEIRA, in reply to the CHAIRMAN, said he saw very few cases of favus now at the London Hospital —Dr J M H MACLEOD had had a case, diagnosed clinically as ringworm in which fungus was found in abundance in the feathers of a canary from which the infection was derived, and another recent case which showed extremely small pin s head sized scutula on glabrous skin

Mr J E R MACDONAGH A man with a "ringed eruption" on the penis occurring in the circumference of the scar of a sore which he had contracted 19 years previously Four weekly intravenous injections of salvarsan with intramuscular injections of mercury and iodide of potassium had been given, but had had little effect upon the lesions The Wassermann test had given a doubtful positive reaction The chronicity of the lesions, the limited localisation with no ascertainable symptoms of a generalised infection, the weak positive Wassermann's reaction and the failure of treatment to cure the lesions suggested to the exhibitor that the condition was an aberrant form of syphilis in which only the spores had been able to develop asexually —Dr A WHITFIELD asked if the tuberculin reaction had been tested or a guinea pig inoculated —Dr H C G SEMON and Mr HALDIN D DAVIS suggested that the "luetin reaction" might be tried.—Dr. A M H GRAY said the luetin reaction occurred in every case that had had syphilis, and it would not help in the present instance

Dr. H. G. ADAMSON demonstrated lantern slides of four cases of the Epithelioma Adenoides Cysticum of Brooke. There were seven cases in one family, four of which he had seen. In their clinical distribution and histological characters the growths resembled rodent ulcer. Brooke's cases had now been shown to be tricho-epitheliomata. The exhibitor regarded the tumours as embryonic hair follicles which were stimulated to growth at puberty and rodent ulcers as due to a similar process occurring later in life, and said a striking feature of these cases was that two of the patients developed large growths on the scalp which had been regarded as endotheliomata, but which microscopical examination showed to be tricho-epithelioma. Dr. A. EDDOWES and Dr. MACLEOD discussed the cases.—Dr. SEQUEIRA drew attention to the fact that Sir Frederic Eve was the first to propound the hair follicle origin of rodent ulcer, and pointed out that the latter was by no means a growth occurring only in old age, some cases beginning in the second decennium.

Dr. ADAMSON: A case of Adult Urticaria Pigmentosa in a woman, aged 44, of five years' duration, whose trunk and limbs were covered with freckle-like lesions associated with an urticarial element.—Dr. A. WHITFIELD thought the disease was one *sui generis;* he had observed a case in which a biopsy showed nothing characteristic.

Dr. W. T. FREEMAN exhibited an Extensive Bromide Eruption in a young child.

Dr. J. A. NIXON brought forward a case for diagnosis. The patient was a middle-aged woman who presented large discoloured patches on the back, with a cicatricial patch, resembling a cheloid, in the centre of the affected area; there was also a second patch of affected skin above the sacrum. He regarded the case as one of sclerodermia. The Wassermann reaction was negative and sections showed only fibrous tissue.—Dr. R. A. BOLAM suggested the possibility of an artefact, with which suggestion Dr. ADAMSON agreed.—Dr. E. STAINER regarded it as a typical case of sclerodermia, and the CHAIRMAN was also in favour of this diagnosis.—Dr. EDDOWES said that sclerodermia was never typical, and he had seen patches showing different characters in the same patient.—Dr. F. PARKES WEBER thought it most unlikely that this was a self-produced eruption.

Dr. NIXON: A case of Acanthosis Nigricans in a woman aged 39. She had noticed the appearance of warty growths all over her body last summer and more recently discolouration and thickening of the skin in the flexures. There was no evidence of visceral disease and all the functions were normal. Suprarenal, pituitary, and thyroid extract had been tried.—Dr. S. E. DORE asked if radiograms of the internal organs had been obtained, as he had observed a case in which skiagrams had revealed extensive malignant disease of the lung.

Dr. G. PERNET exhibited a woman, aged 56, suffering from an untreated rodent ulcer of the face of four years' duration.

Dr. G. NORMAN MEACHEN: A girl, aged 10, with an extensive Hairy Mole, chiefly affecting the "bathing-drawers" area, which was said to have begun at the age of 5. There were also three large lipomatous swellings situated upon the mole, and atrophy of the thigh muscles on the right side. There was a distinct history of maternal impression.—The CHAIRMAN had seen two cases of a similar character recently.

Dr. MACLEOD: A girl, aged 6, with Bald Patches on the Scalp, of two years' duration, following severe impetigo. The patches were dotted over with small papillomatous outgrowths. There was no history of favus or ringworm.—Dr. ADAMSON thought the large central and the small satellite patches strongly suggested a post-kerionic alopecia.—Dr. JAMES GALLOWAY thought the small papillomata on the bald areas were merely excesses of fibrous tissue.—Dr. MACLEOD, in reply, said the hair generally grew normally after kerion; and this was also Dr. SEQUEIRA'S experience.

Dr. MACLEOD: A case of Grouped Comedones in a girl, aged 2 years. The lesions consisted of grouped comedones, acne pustules, white fibrous scars, and minute fibrous thickenings on the back, shoulders, chest, and face, and were probably the result of camphorated oil and turpentine which had been rubbed on the skin by the mother for bronchitis. A comedo was examined for acne bacilli with negative results.

Mr. RUSSELL F. WILKINSON (introduced by Mr. MACDONAGH): A case of Dermatitis Herpetiformis of 13 months' duration; the whole body was covered with a generalised herpetiform eruption. The patient denied having had syphilis, but the Wassermann reaction was tested twice and was strongly positive on each occasion. Two injections of salvarsan had been given and had resulted in great improvement of the eruption. The blood count suggested a pseudo-leukæmic state.—Dr. SEMON had observed an identical case which had been under treatment for psoriasis for many years and subsequently developed dermatitis herpetiformis. There was no specific history. The blood count showed 27 per cent. of eosinophiles comparing with 22 per cent. in the present case.

Dr. KNOWSLEY SIBLEY: A woman, aged 42, suffering from Lupus Erythematosus affecting the face, mouth, and scalp. The lesions inside the mouth began at the same time as those on the scalp; the mucous membrane showed scarring and ulceration, and there was a peculiar sieve-like condition of the upper lip.—Dr. SEQUEIRA said that one of his clinical assistants had found lesions in the mouth in 28 per cent. of cases of lupus erythematosus.

Dr. C. DUDLEY CORBETT: A girl, aged 15, with Hypertrophic Lichen Planus on the right arm of five years' duration and linear in distribution; it had been much improved by one-third of a pastille dose of X rays.—Dr. MACLEOD said the patient was young for lichen planus, and thought the condition might be nævoid.

Dr. H. MACCORMAC: A case of Polycythæmia Rubra in a man aged 64. The condition began six years ago, and the rubicund condition of his face had since become more marked. The small blood-vessels could be very distinctly seen on the face and the skin was of a reddish-blue colour which was also well marked on the mucous membranes. Apart from a feeling of lassitude his general condition was fairly good.

Dr. SEQUEIRA brought forward a case of Multiple Idiopathic Pigmented Sarcoma which he had shown at the International Congress. The case was shown in order to illustrate the disappearance of the infiltrating growth which had taken place as the result of X ray treatment.

SECTIONS OF ELECTRO-THERAPEUTICS AND NEUROLOGY.

Use of Electrical Methods and the Value of Radiography in the Diagnosis and Treatment of Neurological Conditions.

A JOINT meeting of these sections was held on Feb. 20th, under the presidency of Mr. C. THURSTAN HOLLAND, when a discussion on the above subjects took place.

Dr. H. LEWIS JONES said the time had come for a review of the methods of using electricity, both for testing and for treatment, in cases of paralysis. In the treatment of paralysed muscles the current used must be a rhythmically varying one, with about 15 periods of action and of rest per minute. Also the current should be used for longer periods and of greater strengths than hitherto. Hence there was an advantage in using condenser discharges instead of induction coil currents, because they were more agreeable to the patient. Simple tetanisation of muscles tended rather to fatigue and to injure than to develop them. There were now several rhythmic interrupters on the market, two of which he demonstrated in action. With them the current grew from zero to maximum, and then faded again to zero; then followed an interval, and the cycle was repeated. The principles of ionic medication had taught one how to make large currents tolerable to the patient by a change in the form of the electrode. Treatments of infantile paralysis of half an hour's duration, repeated twice a day, were found practicable without any fatigue or exhaustion. The use of condenser discharges to take the place of the induction coil had been adopted by only a few observers; it was less painful than induction currents, and was more accurate for measurement. For six months he had used condenser discharges for muscle stimulation, to the exclusion of induction coils. The use of condensers for testing he had described in a previous paper. For treatment, discharges must be rapid enough to cause tetanic contractions in the muscles. This was ensured by employing a mechanically operated commutator, which charged the condenser from the source, and discharged it through the patient. In cases of nerve injury or nerve lesion ionic medication should be employed. He had seen very good results from it in facial paralysis.

Dr E P CUMBERBATCH read a contribution on Muscle Testing by the Condenser Discharge He pointed out that the character of the response to the galvanic current varied in the case of different muscles, and a cold muscle contracted more slowly than a warm one There was need of a method which would give a long range of stimulus, varying in duration from the shortest to which a muscle would contract, to the longest necessary to evoke response This was furnished by condensers of varying capacity, and their use caused very little pain The method, which he described in detail, enabled one to give an accurate prognosis in any given case, and he gave a number of instances

Mr W HAMPSON spoke of gratifying results he obtained at the Queen's Hospital for Children in cases of infantile paralysis from the method of rhythmical stimulation

Dr REGINALD MORTON spoke in support of the value of slowly varying currents, and reminded members of Dr Herschell's efforts of ten years ago, and his own device of a low periodicity three phase current which he used with advantage for intestinal conditions It had always appeared to him when using very large current densities for ionisation that a tetanic condition of tissues was being produced, which arrested the circulation to some extent and caused some spasm in the arterioles So he thought ionisation would be better if one could let the current be regulated by an interrupter

Dr E G FEARNSIDES and Mr S G SCOTT communicated a paper, profusely illustrated, on Diseases of the Pituitary Gland and their Effect on the Shape of the Sella Turcica

Dr N S FINZI emphasised the great importance in these cases of getting the rays through the fossa exactly lateral, and described his method of ensuring this

The subject was also discussed by Mr E S WORRALL and Dr F PARKES WEBER, and Dr FEARNSIDES and Mr SCOTT replied

LIVERPOOL MEDICAL INSTITUTION

Dislocation of the Shoulder —Lymphatic Leukæmia —Disease of the Pylorus

A MEETING of this society was held on Feb 19th, Dr E W HOPE the President being in the chair

Mr R E KELLY read a note on a Case of Fracture dislocation of the Shoulder The humerus was in three pieces; the head had become attached to the side of the shaft Mr Kelly freed it from the shaft and planted it in its proper position It became united and gave an excellent result —Dr N G CHAVASSE reported a case of fracture-dislocation successfully operated on by Mr Douglas Crawford —Mr T O LITTLER JONES related cases in which it had been necessary to remove the broken portion of the bone from the shoulder joint —Mr G P NEWBOLT referred to the value of pulling the arm right above the shoulder in the reduction of the dislocation —The PRESIDENT, Professor RUSHTON PARKER, and Mr F C LARKIN also joined in the discussion —Mr KELLY, in reply, discussed the regeneration of bone

Dr N PERCY MARSH gave a short paper on Three Cases of Lymphatic Leukæmia in Children The respective ages of the children were 11 4½, and 3 years The three children died within a few days or weeks of the onset of the symptoms In his experience he said, arsenic and blood serum were useless In concluding, he dealt with the etiology and pathology of the condition —Dr T R BRADSHAW related a case and upheld the view that the essential pathology was that of a neoplasm —Dr H R HURTER referred to a case of multiple myeloma which ended in a lymphatic leukæmia and suggested that such a sequence of events threw some light on the pathology of acute lymphatic leukæmia —Professor R J M BUCHANAN stated that the blood picture of a myelogenous leukæmia tended to show a change towards the lymphatic type as the disease became more acute or towards the end of the life of the patient He also pointed out that in a relapse subsequent to treatment by X rays the blood was more lymphatic in character

Mr NEWBOLT read a short paper on Some Cases of Disease Affecting the Pylorus and Necessitating Gastro-enterostomy He related a number of interesting cases illustrating the various points raised in the paper Among other matters discussed was the difficulty of diagnosing the nature of certain growths even when exposed by the surgeon, and the importance of having a pathological report at the time of the first operation He referred to the question of the value of pylorectomy, which in his opinion, when undertaken for malignant disease, was almost always disastrous He held a more favourable view of operations for palpable tumour of the stomach than was usual 10 or 15 years ago He also related a case in which the hernia of the small intestine had taken place in the lesser omentum —Mr LARKIN Professor RUSHTON PARKER, Mr K W MONSARRATT, Dr NATHAN RAW, and Mr LITTLER JONES discussed the paper —Mr NEWBOLT replied

Exhibition of Cases and Specimens —Dysentery due to Bacillus Y

A pathological meeting was held on Feb 26th Dr W B WARRINGTON, Vice President being in the chair

The following cases were shown —

Mr MONSARRAT (1) An Ulcer of the Pylorus which macroscopically appeared malignant but microscopically proved to be innocent, (2) two specimens of Ulcer of the Lesser Curvature of the Stomach, in one case caused by burns, (3) a Carcinoma of the Ileum, (4) a Nasal Polyp of large size, and (5) a Carcinoma of the Thyroid Gland

Mr NEWBOLT (1) A Small Hard Prostate, (2) a Carcinomatous Cyst of the Breast in a woman whose other breast had been removed 30 years previously for carcinoma, (3) a Malignant Sigmoid, and (4) a Mass of Axillary Glands removed with portions of the Axillary Artery and Vein

Professor ERNEST E GLYNN (1) A specimen of Acute Fibrous Pericarditis in a horse, and (2) (with Dr J H ABRAM) a Liver from a man aged 27, showing cirrhosis

Mr F A G JEANS and Mr C T HOLLAND Gall stones in a case with Stenosis of the Pylorus, and Urethral Calculi (240 in number) from a Pouch growing from the Urethra

Mr G C E SIMPSON Several Ureteral, Prostatic, Intestinal and Gall Stones

Professor BUCHANAN Specimens illustrating Leukæmia, and demonstrating the Life history of a Leucocyte —Mr. MONSARRAT discussed the formation of prostatic stones, and gave his opinion that they were formed in the gland itself —Dr STANSFIELD, Dr WARRINGTON, and Professor J M BEATTIE also discussed the specimens

Professor GLYNN read a note upon a case of Dysentery due to Bacillus Y which had been isolated by Dr J Bamforth from a patient in the Liverpool Royal Infirmary. —Professor BUCHANAN gave details of the clinical picture and of the treatment

Mr W P GOWLAND gave a demonstration of the Method of Reconstructing Embryos in Wax The special method of preparing the sections, the drawing of them by means of the Edinger projection apparatus, and the means by which the drawings were converted into wax plates, were explained with the aid of specimens and lantern slides. Models kindly lent by Professor Peter Thompson and Mr Rutherford were exhibited Dr Gowland pointed out the great necessity for cooperation in this branch of work between the practising physician and surgeon on the one hand and the pure scientist on the other hand —Dr WARRINGTON and Professor GLYNN discussed the paper, and Mr GOWLAND replied

EDINBURGH OBSTETRICAL SOCIETY.

Ethical Questions, Eugenic and Obstetric —Extra uterine Pregnancy

A MEETING of this society was held on Feb 11th, Sir J. HALLIDAY CROOM the President, being in the chair

Dr J HAIG FERGUSON read a short note on a case involving some Ethical Questions, Eugenic and Obstetric. The patient was an unmarri [illegible] parents, weak and facile, and [illegible] pregnant Her developmen [illegible] appearance by no means unattractive, but she undoubtedly would come under the class now recognised as ' degenerates ' Her pelvis was small the diagonal conjugate measuring not more than 3¼ possibly only 3, inches, which made the true conjugate about 2¼ inches, and the pelvis seemed uniformly contracted. When first seen she had passed the time for induction of premature labour with such a pelvis as hers, and the only possible treatment was Cæsarean section at or near full time. Eugenically it was probably advisable to sterilise this girl at the time of Cæsarean section, but this could not be done without her consent. From a medical point of view it was not usual to sterilise a woman nowadays in her first Cæsarean section, in the absence of other disease, however small her pelvis might be. The first child might not survive or might be weak or deformed, and it was right, now that Cæsarean sections were comparatively safe, to give the woman at least one more chance should she marry. Apart from the social difficulty in a case like this another question arose. If she were sterilised without her consent and later married, and it was discovered that she had been sterilised, no matter how good the reason might have seemed, a good claim for legal damages would probably lie against the operator. The parents of the girl, after full explanations, wished their daughter to be sterilised, and were willing to authorise it in writing, but it was doubtful if this would prove a legal safeguard in dealing with a girl of her age. The parents did not wish the girl or her neighbours to learn that she would be unable to conceive again. An unmarried woman's knowledge that she could not conceive might lead to disastrous results. The speaker knew of a girl who after removal of two ovarian dermoids became completely demoralised and ultimately syphilitic, though at one time of the highest character. In another recorded case a girl who had become syphilised vowed vengeance on the male sex and tried to infect as many men as possible. It might be said that medical men had nothing to do with the social or moral aspects on such a case as the present. On the other hand, nothing, however medically justifiable of itself, which was likely to bring difficulties into any community should be done.—Dr. D. BERRY HART considered the right thing was to do the Cæsarean section, leaving the girl as she was. An illegitimate child was very much neglected in this country and its fate was very hard, but abroad honorary guardians were appointed, and the father had to pay a certain amount. He knew cases where the illegitimate children of people in good society were allowed after the age of 14 to drift into the very lowest strata of society.—Dr. F. W. N. HAULTAIN had to operate on this patient during his term of duty. He thought her an intelligent girl. The parents had authorised him to sterilise her, but the patient absolutely refused to give any decision. He therefore had decided to operate and leave things as they were. If she lived it was conceivable that she might become worse in her habits and give rise to considerable disease, but also it was quite possible that if she had a child it might have a salutary effect on her.—Dr. J. LAMOND LACKIE said that two years previously at the Maternity Hospital a patient was admitted in the second stage of labour whose first labour (both were illegitimate pregnancies) required craniotomy. The conjugata vera was narrow; forceps failed and pubiotomy was mentioned to the patient, but she wished the child destroyed, as in the first labour. The child was alive. Craniotomy was done, but he wondered if one was justified in doing craniotomy (where the risk was as great as in pubiotomy) and thus destroying a possible useful citizen. Dr. Lackie felt that if pubiotomy was as safe as craniotomy he had done wrong.—Professor R. JARDINE (Glasgow) considered the proper thing had been done in the present case. In illegitimate cases he never sterilised the woman without some other good reason for doing so. If the woman married afterwards she ought to have the chance of maternity. In married cases he did sterilise with the patient's consent and many wished it. In cases requiring Cæsarean section he sterilised on a second operation. It might be asked, Why not let her go on? Recently he had had a case in which he had done Cæsarean section a third time. He had done the first, another doctor, who had refused to sterilise, the second. When the third operation was called for the union was so thin that it would have probably ruptured. Cases of rupture from this cause were admitted into the Maternity Hospital. The condition might be left till a second pregnancy, but if the patient or her husband refused consent it was not done. That was rarely the case though. He had done craniotomy when he thought it was best for the mother, but in similar circumstances to Dr. Lackie's he would be much inclined not to do it.—Dr. A. H. F. BARBOUR did not think one should do on a married woman what one would not do on an unmarried woman. If the woman subsequently married and her husband brought an action, he thought a judge would hold that the woman ought to have communicated that fact to her future husband. One must be careful about imposing laws and conditions on a patient as regards sterilisation from the point of view of moral degeneracy.—Dr. JAMES RITCHIE considered Dr. Haultain's action was the right thing to do. In Dr. Lackie's case he would have done the pubiotomy without consulting her; he did not think it was right to destroy a child because the mother wished it to be done.—Dr. LACKIE replied that one could not operate without consent.—Dr. JAMES YOUNG said statistics showed that in an aseptic woman the risk from craniotomy was practically *nil*, whereas that from pubiotomy, in which the conditions were similar, was at least 2 or 3 per cent., not to mention the risks to the locomotor powers of the patient. Dr. Lackie did the very best thing for the mother who, if the risks of pubiotomy had been known to her, would have refused. In a court of law the mother's interests were paramount.—The PRESIDENT said in the first case the question was, Was the woman really degenerate? If she was, with or without permission, one ought to sterilise. He agreed with Dr. Lackie's treatment of his case.—Dr. W. FORDYCE and Dr. H. S. DAVIDSON also discussed the paper.—Dr. FERGUSON, in replying, read a letter from Sir Thomas Clouston, in which he said that while it was difficult to conclude in the absence of a personal examination, the presumption was that the girl came under the definition of feeble-minded persons or moral imbeciles in the new Mental Deficiency and Lunacy (Scotland) Act, which he quoted. If that was so her parents' consent to operation would be a valid defence against action. But under the Act or not he thought a surgeon was fully justified in sterilising her as part of the Cæsarean section, as a preventive against the risk of another pregnancy in view of the possibility of natural delivery. With what would happen from an ethical or social standpoint the surgeon had practically nothing to do.

The PRESIDENT contributed a report on a case of Extra-uterine Pregnancy, which had developed to full term without giving rise to any symptoms whatever. The patient was sent in with supposed hydramnios. There was found to be a large quantity of fluid in the abdomen which was diagnosed as tuberculous peritonitis, and within it what appeared to be a pregnant uterus. Although thorough examination was difficult, there was no indication of anything but an ordinary pregnancy. After being eight years married this was her first pregnancy. She died suddenly, and on the abdomen being opened a large tumour, corresponding to a pregnant uterus at term, was found, and through a ragged opening in the left side posteriorly a fœtal foot projected. This was supposed to be a ruptured uterus. On further examination it was discovered to be evidently an eight months extra-uterine gestation sac containing a fœtus approaching term, and the uterus was enlarged 4½ inches and lay below the gestation sac. Apparently the original implantation of the ovum had been on the anterior and posterior aspect of the tube. The abdominal contents were matted together by a diffuse and extensive tuberculous peritonitis. The interesting point was that pregnancy had reached this stage of development without giving rise to any symptoms whatever; and the rupture also must have taken place practically without any symptoms.—Dr. W. FORDYCE, Dr. BARBOUR, Dr. FERGUSON, and Dr. HAULTAIN discussed the subject, and the PRESIDENT replied.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A meeting of this association was held at Storthes Hall Asylum, West Riding, at the invitation of Dr. T. Stewart Adair, and by the courtesy of the Visiting Committee, on Feb. 19th, under the presidency of Dr James Chambers.—A paper was read by Dr. H. Devine (Wakefield Asylum) on the Clinical Significance of Katatonic Symptoms. He said that katatonic symptoms are not necessarily significant of a deteriorating process, and the syndrome is frequently observed as a phase of the various forms of relapsing psychosis. The absence of confusion indicates a favourable prognosis, but a symptomatological diagnosis is not always possible. Especial attention must be paid to the make-up of the personality. Cases which deteriorate are usually found to have exhibited constitutional traits of an abnormal character before the outbreak of the psychosis. These habits are described under the heading of the shut-in personality. The cases which recover are dependent upon a hysterical or cyclothymic constitution, each with special reaction tendencies.—The paper was discussed by the President, Dr. Bedford Pierce, Dr. G. D. McRae, Dr. G. R. Jeffrey, Dr. J. G. Soutar, Dr. M. A. Collins, Dr. D. Bower, and Dr. R. H. Cole.—Mr. H. Salter Gettings (Wakefield) made a short communication on Bacteriological Investigations on Asylum Dysentery. He stated that the bacilli belonged to the group which did not touch lactose, and that he had found non-fermenting colonies in 44 out of 84 samples, and of these 44, in 39 the bacillus dysenteriæ was present. He had found that the bacillus was not always present in the same patient, and concluded this in some degree accounted for the high percentage of failures to isolate the organism.—Dr. W. H. Robinson and Mr. Gettings made a communication on the Pathology of General Paralysis. Four cases were quoted; in two the Wassermann reaction was negative, but the symptoms clinically and naked-eye post mortem were typical of general paralysis, but microscopically proved to be arterio-sclerotic in origin, and the spirochæta was not found in smears. In the other two cases the clinical and naked-eye symptoms were those of general paralysis of the insane, and the Wassermann was positive. These cases proved microscopically to be general paralysis of the insane, and the spirochæta was isolated in both cases. Mr. Gettings thought that clinical general paralysis of the insane might be of two origins, and this might explain the controversy between the "no syphilis, no G.P." school and others.—Dr. Devine, Mr. T. Graeme Dickson, and Dr. Soutar discussed the paper.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 13th, Professor T. Wardrop Griffith, the President, being in the chair.—Pro[illegible] of Fragilita[illegible] that gave [illegible] by lantern slides.—The paper was discussed by Mr. W. Thompson, Mr. S. W. Daw, Mr. F. H. Mayo, Mr. H. Collinson, and Mr. J. F. Dobson.—Dr. W. H. Maxwell Telling and Mr. Daw showed a case of Rheumatoid Arthritis. The patient, who had been unable to walk for the past five years, had had the knees straightened forcibly after tenotomies, and could now walk in caliper walking splints.—Mr. Collinson showed a Ureteral Calculus which had been passed spontaneously. The calculus could be felt by a ureteral catheter which was passed beyond it. Olive oil was injected into the ureter above the calculus.—Mr. Alexander Sharp showed a patient with a Dental Cyst invading the antrum of Highmore. A skiagram showed the cyst involving the larger part of the antrum. It was proposed to treat the case after the radical method of dealing with chronic antral empyema.—Mr. Dobson showed specimens from cases illustrating the association of acute appendicitis with tuberculosis of the ileo-colic glands.—Mr. Mayo showed bone specimens from a case of Osteomalacia with skiagrams.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 18th, Mr. R. G. Hogarth, the President, being in the chair.—Dr. J. S Risien Russell, physician to the University College Hospital, gave an address on the Affections of the Nervous System which are responsible for Ataxia. After having enumerated the various affections which caused ataxia the lecturer in great detail dwelt on the differential diagnosis of tabes, disseminated sclerosis, subacute combined degeneration of the cord, peripheral neuritis, cerebellar tumour, and Friedreich's ataxia. The lecture was illustrated by lantern slides.

ROYAL DENTAL HOSPITAL OF LONDON.—The annual general meeting of the governors will be held at the hospital on Thursday next, March 12th, at 5.30 P.M., Sir Stuart M. Samuel, Bart., M.P., a vice-president of the hospital, in the chair, to receive the annual report, and elect the committee of management, the treasurer, and auditors for the ensuing year. All governors, including ladies, are invited to attend.

Reviews and Notices of Books.

A Manual of Operative Surgery with Surgical Anatomy and Surface Markings.

By DUNCAN C. L. FITZWILLIAMS, M.D., Ch M. Edin., F.R.C.S. Eng., F.R.C.S. Edin., Surgeon in charge of Outpatients, St. Mary's Hospital; Senior Assistant Surgeon to [illegible] Cox. 1913. Pp. 450. Price 10*s*. 6*d*. net.

THIS text-book, so the author tells us, is intended, not for the operating surgeon, but for two classes of readers who have not trodden so far on the road of surgery: in the first place for the student, who needs to learn even the most elementary groundwork of the subject, but to whom the practical details are of comparatively little importance; and also for those whom the author describes as the journeymen craftsmen of our profession, who are able to value the practical importance of details in the mode of carrying out operative procedures. Mr. Fitzwilliams has, wisely we think, incorporated in his book an ample account of the surgical anatomy and surface markings which are of so much practical importance in the operations of surgery, and yet are often omitted in works relating thereto.

From a careful examination of this work we feel fully satisfied that the author has achieved his aim in providing for his readers a good and trustworthy treatise on the methods of operative surgery. There is a tendency at the present time among some surgeons to disparage the form of teaching operative surgery which has prevailed for many years; for, in their opinion, the student is taught many operations which he will never perform or see performed in practice. Instead of a set amputation he will see a surgeon amputate a limb where the injury has necessitated the operation, and the flaps will be cut according to the amount of skin which is left. All this is very true, but there are no sufficient reasons for banishing from our text-books the methods which are ideal, and yet which are seldom if ever applicable to cases as they occur in practice. In the study of mathematics the student has to solve many problems which will never occur in practice. It is said that it is useless for the student of surgery to tie blood-vessels in their continuity, for in practice these operations are hardly ever done; but here again the student's skill is trained, and even the practical knowledge so acquired will be of great benefit to him hereafter. It is true that to the operations of the past many new ones have been added, and these should always be included in a course on operative surgery for students, and this has been done in this case; but we should regard it as a distinct mistake to exclude the old ones. All operations are of value in the training of the student, and a very large number of operations is possible on one cadaver.

We have not seen any work which is better suited for the student or the young practitioner than this, and the illustrations are numerous and adequate. We must acknowledge that we are pleased to find that the author has employed the usual nomenclature in the use of anatomical terms, instead of the inaccurate and eccentric names of the Basle nomenclature. He will doubtless agree that reform of our anatomical names is needed, but it must be a reform founded on common sense.

of these deal with the "Bausteine," or the amino-acids and their conjugations, to produce peptones and polypeptones. A very full account is given of the distribution, constitution, functions, and mode of formation of the proteins both in plants and in animals. The results of their digestion in the alimentary canal are fully set forth, and the fate or destiny of the products of their intestinal proteolysis is followed throughout the body. To the actions of the intestinal flora and the amino-acids of the intestine one lecture is allocated; another to what happens to the amino bodies after they enter the blood from the intestinal canal. Their relations to cell metabolism are intimately discussed and the final products of protein metabolism are then considered. Two lectures suffice for the nucleo-proteins and nucleic acid. Blood and its colouring matter, chlorophyll and other colouring matters occupy one lecture, while the last lecture deals with the origin of blood and its pigment, their condition in the animal organism, and the relation of hæmatin to the bile pigments and urobilin. The story of the bile salts brings the lectures to a close.

This is a most commendable and elaborate presentation of a subject which is growing daily in importance, and one which must command more and more the attention of teachers of physiology and biochemistry to medical students. Part II., which deals with the Inorganic Nutrient Bodies, is announced to appear in the spring of this year.

School Clinics at Home and Abroad.

By LEWIS D. CRUICKSHANK, M.D. Aberd., D.P.H. Cantab. London: The National League for Physical Education and Improvement. 1913. Pp. 171. Price 2*s.* 6*d.* net.

THIS book is divided into three parts, of which the first deals with the problem of treatment, and, describing the available means, enters into a general description of the school clinic; Part 2 deals with clinics actually in operation at home, and Part 3 with clinics abroad. So rapidly does the school clinic movement progress that the second section is not now full enough, but this does not impair the value of the work as a book of reference for the school medical officer and the educationist.

Dr. W. Leslie Mackenzie, in the introduction, states that "the present volume has been prepared for the active citizen," and the book will serve the "active citizen" interested in education very well; but it would have served him even better had the style of the writing been clearer and more crisp. The legal aspects of the problem of treatment occupy the second chapter. The available means of treatment are dealt with in the third, and the arguments for and against treatment at hospitals are fairly set out, as is also the "attitude of the hospitals," an attitude usually antagonistic to the undertaking of treatment for school children's ailments. From the standpoint of the school medical officer Chapter VI., on The School Clinic: its Departments and Work, is of particular interest, illustrating as it does, from the case of existing institutions, what can be accomplished. The photographs appended will help to convey a vivid idea to the lay mind of the work that is being done by school-clinics. The departments into which a clinic's treatment work can be divided are given as: A. General medical department: (1) treatment of minor ailments, (2) cleansing schemes, and (3) X ray treatment of ringworm. B. Ophthalmic department. C. Dental department. D. Orthopædic department. E. Operative department. Any one of these departments may be started separately and others added as need and opportunity arise. The staff and accommodation needed for a clinic and the cost are all separately considered with reference to schemes in operation.

This is a useful volume and should do much to explain the reasons for the institution of school clinics to a public that is too ready to regard them with prejudice.

Handbook of Diseases of the Rectum.

By LOUIS J. HIRSCHMANN, M.D., Lecturer on Rectal Surgery and Clinical Professor of Proctology, Detroit College of Medicine. Second edition. Illustrated. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1913. Pp. 339. Price 18*s.* net.

WE reviewed the first edition of this work on its appearance, and we are pleased to welcome a second edition. It retains all the good points which rendered the earlier issue a very convenient text-book for the general practitioner who wants to know something more of the surgery of the rectum than is contained in the surgical text-books, and, in addition, this issue has several new features which enhance its value. Especially we would mention the account of the use of quinine and urea hydrochloride as a local anæsthetic; this substance is not employed to the extent which it deserves, for it is very safe and its action is long lasting. The technique of operations on the rectum with the aid of local anæsthesia has been very fully described, and this should prove of value.

We can cordially recommend the book as a very practical introduction to the diseases of the rectum.

LIBRARY TABLE.

Collected Reports of the Department of Neurology, Harvard Medical School. Volume V. 1912.—The fifth volume of reprints of contributions emanating from the neurological department of the Harvard Medical School contains several from the pen of the veteran neurologist, Dr. James J. Putnam. Among these may be enumerated Personal Impressions of Sigmund Freud and his Work, Personal Experience with Freud's Psychoanalytic Method, on the Etiology and Treatment of the Psychoneuroses, a Plea for the Study of Philosophic Methods in Preparation for Psychoanalytic Work, on Freud's Psychoanalytic Method and its Evolution, and Comments on Sex Issues from the Freudian Standpoint. It will be seen, therefore, that Freudism has entered largely into the work in recent years of the Boston neurologist. There are also papers by Dr. E. W. Taylor and Dr. G. A. Waterman bearing more or less on the Freudian hypothesis. Of the 18 contributions in this volume of reprints only four are concerned with organic nervous disease. The general level of the papers is high, and the reputation of the department has been worthily maintained.

Explanatory Lectures for Nurses and their Teachers. By H. HAWKINS-DEMPSTER. Bristol: John Wright and Sons, Limited; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1913. Pp. 224. Price 3*s.* 6*d.* net.—This book will, we think, be found very useful by those for whom it is intended. It is, in fact, a commentary on the ordinary course of lectures on nursing, elucidating various points. The work is divided into 13 "subjects" which are treated respectively in one, or more generally two, "lectures." Thus, Subject I.

deals with the keeping of charts, Subject VII. with bacteriology, Subject X. with dropsy, and Subject XIII. with observation and precision. The book is written in a simple yet interesting style, and one good though somewhat unusual feature is the use made of analogies and comparisons between pathological or physiological processes and everyday occurrences—e.g., "We may roughly compare the heart and the circulation to two covered platforms built back to back within one station, with double lines in common, but with no passage through the station itself." Mr. Hawkins-Dempster then explains that passengers start from platform A, journey by the outgoing lines to market towns (the capillaries), where they buy and sell, and return, exhausted and soiled, by the ingoing lines (the veins) to platform B (the right side of the heart). Further on he explains the pulmonary circulation in similar fashion. Again, the condition of the blood-vessels in sclerosis is well compared to the lesions seen in old water-pipes, where the glaze has given way or has been worn off, so that the unprotected earthenware has disintegrated, or deposits of lime or chalk have been formed, and the calibre of the pipe is seriously lessened. Besides the 13 subjects, there are four supplementary lectures, intended not for trained or training nurses, but for "first aid" hearers, which deal with fractures and hæmorrhage. The book is eminently practical, and many a medical man who has to lecture to nurses will find it useful; not that it will teach him any new medical or scientific fact, but it will give him "tips" for imparting knowledge, a faculty which is by no means common to those possessing it.

A Manual of Ambulance. By J. SCOTT RIDDELL, M.V.O., M.B., C.M. Aberd., Senior Surgeon and Lecturer on Clinical Surgery, Aberdeen Royal Infirmary. Sixth edition. Illustrated. London: Charles Griffin and Co., Limited. 1914. Pp. 254. Price 6*s.* net.—This work was first issued in 1894, and during the 20 years that have elapsed it has passed through six editions, with considerable enlargement. In the present volume sections on artificial respiration, the treatment of electrical accidents, and on ambulance transport have been added. The information given is complete and clearly arranged, and is illustrated by more than 200 figures, many being full-page plates. The chapter on Voluntary Aid Detachments and their Work is excellent; as a concrete instance of practical organisation the author takes the case of the Highland Division and Mounted Brigade of the Territorial Force, called out to oppose a landing on the shores of the Moray Firth. A specially prepared map is inserted, showing the disposition of medical aid detachments. Such a well thought out scheme is exactly what should be prepared *mutatis mutandis* by all auxiliary detachments throughout the country. Another valuable chapter is that on the first-aid treatment for accidents from electricity. In applying the "reversed bandage" (page 41), for "thumb of right hand" should be read "thumb of disengaged hand" (as it varies with the limb bandaged). No more comprehensive or better illustrated manual of ambulance work could be wished for than Dr. Riddell's volume.

JOURNALS AND MAGAZINES.

Parasitology. Edited by GEORGE H. F. NUTTALL, F.R.S., and ARTHUR E. SHIPLEY, F.R.S., assisted by EDWARD HINDLE, Ph D. Volume VI., No. 4. January, 1914. Cambridge University Press. Price 10*s.* net; yearly subscription £1 10*s.*—The Trematode Parasites of North Queensland, I., by William Nicoll, contains the descriptions of 12 new species, two of which represent new generic types. This paper is the first of a series on the trematodes of Queensland and the Northern Territory, and is of special interest considering the economic importance of parasitic worms.—Pseudo-Parasitism, by A. E. Shipley, is a record of two very curious cases of pseudo-parasitism which have come under the author's notice. The first case is that of a woman, aged 68 years, from whom centipedes had been vomited and passed during a period of 12 or 18 months. Some of the centipedes emerged through the patient's nose, and as many as seven or eight, sometimes more, were daily leaving the alimentary canal. According to the statement of her medical attendant some hundreds of these animals had left the body. Their presence produced vomiting and some hæmatemesis, and treatment with thymol, malefern, and turpentine had no effect in removing the creatures. The specimens were identified as belonging to the species *Geophilus gorizensis* Latzel, and considering the breeding habits of this centipede it is almost impossible to conceive that the animals are capable of multiplying in the intestine. In the second case the author had sent a partially digested specimen of a slug, Milax marginatus (Müll.), which had passed through the alimentary canal of a doctor.—Regeneration in Argas persicus, by Edward Hindle and Norman Cunliffe, is a somewhat technical paper, concerned, as the title implies, with the study of regeneration in the fowl tick. With the exception of the adults all stages of the tick possess very considerable powers of regeneration. In addition, from their experiments the authors are of the opinion that in Argas persicus there is a tendency towards the suppression of the free larval stage, as in the case of Ornithodorus moubata, the human tick.—Rhipicephalus sanguineus: Variation in Size and Structure due to Nutrition, by Norman Cunliffe, is a decided confirmation of Nuttall's previous work on this subject, in which he expressed the opinion that the variation in size of ticks is mainly due to their being forcibly removed at various stages of engorgement. The striking effects of malnutrition in the case of R. sanguineus are well shown in the present paper.—Observations on Argas brumpti, Neumann, 1907, by Norman Cunliffe, contains nc [illegible]
description of the k [illegible]
tick.—The Anatomy [illegible]
by L. E Robinson an [illegible]
these authors' monograph of the anatomy of the common fowl tick. Nothing seems to have been left untouched, and now that the full monograph has appeared, with its magnificent coloured plates and wealth of illustrations, the authors are to be congratulated on the completion of a work which will remain as a basis for all future study of that most important group of parasites, the Ixodoidea.

The Philippine Journal of Tropical Medicine, Vol. VIII., Section B, No. 5.—The first article in this number is on Experimental Balantidiasis, by Dr. E. Linwood Walker, and is illustrated by 7 plates. Dr. Walker states that the affection caused by balantidium coli is relatively common in man in the Philippine Islands, and a large proportion of pigs are similarly affected, balantidia being passed in the resistant encysted stage in the stools of the infected animals, which are to be regarded as the chief source of the human disease in that part of the world.—Dr. R. B. Gibson gives the results of a number of experiments he made on the Influence of Compensated Salt Mixtures on the Development of Polyneuritis Gallinarum and Beri-beri. He concludes that the addition of such a mixture to white rice, with which fowls are fed, does not prevent the development of polyneuritis, though the onset of the disease is slightly delayed and the degenerative changes in the nerves are less pronounced. This paper is illustrated by 4 plates.—Dr. A. Marshall Barber gives an account of an unusual disease which prevailed in epidemic form at Buki, Ambos Camarines, on the island of Luzon. It was characterised by an inflamed spot or nodule on the skin, with severe constitutional symptoms, and was often fatal. Plague and anthrax were excluded, the only positive laboratory findings being pyogenic cocci. No similar epidemic had been previously observed.—The same author contributes another paper, illustrated, in continuation of previous investigations on the same subject, on the Infection of Achyla, one of the fish moulds, with various micro-organisms.—Dr. W. E. Musgrave and Dr. A. S. Sison describe four cases of Acute Malignant Glanders in Man, and Dr. C. M. Reyes furnishes a short article on Noma in the Philippine Islands, with report of a case

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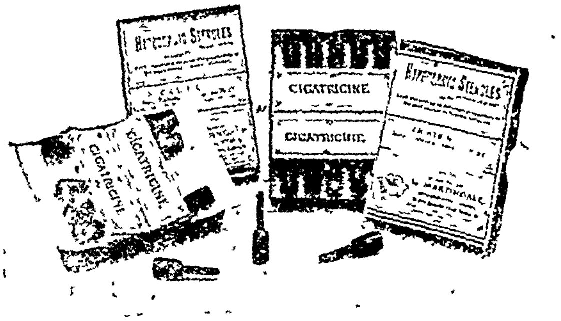

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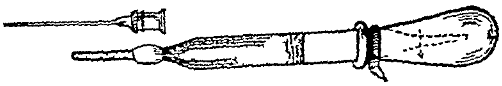

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LONDON: SATURDAY, MARCH 7, 1914.

Vested Interest in Public Appointments.

THE interest that a lawyer or a firm of solicitors, a medical man or a firm of medical practitioners, may have in a public appointment is not easy to define, and therefore the filling up of any vacancies as they occur is not infrequently the origin of trouble. A lawyer has been, for example, under-sheriff or clerk to the justices with complete satisfaction to the public and to those whom he especially serves; what right has he to expect that on his retirement another partner in his business, or the successor to whom he has sold his practice, will continue to hold the same office? What is the duty of his brother solicitors in the neighbourhood if the desire to invite candidates for the post, and to discriminate between the resulting claims, is manifested by advertisement? Should they compete against their professional friend, or should they allow the possible importation of an outsider? Similarly a medical man is officer to a municipal institution or some public authority—again, let us assume, with great credit to himself and benefit to the community; when he desires to let go of the appointment, ought he to consider that another practitioner in his firm, or the purchaser of his private practice, or of a share of that practice, has a right to succeed him? There is no doubt that the view held by many solicitors and medical practitioners is that a vested interest can be to some extent created by a record of good service, for in the sales of legal and medical practices the probable succession to public appointments is often mentioned as an inducement to purchasers. But there is also no doubt that, particularly of late years, the feeling of the public has been against the creation of any vested interest in public appointments; and State, county, and municipal authorities have with much more frequency begun to seek competitors for these posts by advertisement. When this is done the ensuing action of the local solicitors or medical practitioners will be dictated by local feeling, and inasmuch as this is not always unanimous in one place, or at all common in different places, professional troubles may arise.

The appointments as medical officer to a municipal fever hospital and to a borough police force recently became vacant in a medium-sized and prosperous town owing to the retirement of the senior partner in one of the medical firms. All the medical men in the town, we are informed—and this would mean between 30 and 40 practitioners—received official notice of the vacancies, with an intimation that they could apply for the posts. The chairman of the division of the British Medical Association was thereupon approached by several of the local practitioners, and asked to advise whether application for the posts in competition against the partner of the retiring holder would be an unprofessional act, it being easily ascertainable knowledge that that gentleman desired the succession. A meeting of the local practitioners was accordingly held, the election being postponed for the purpose by the municipal authorities, when it was decided that the medical profession should support the application for the posts of the retiring holder's partner, on the double ground that he had considerable experience of the work and that he had bought from his former senior partner these and other appointments. The next event might, we think, have been anticipated. The municipal committee entrusted with the election to the vacancies decided to advertise them, and, if necessary, to import a practitioner to serve the public interest. We are glad to think that this disagreeable position is not in the least likely now to be reached, for during the week a further meeting of the local practitioners has come to a decision that public appointments can no longer be regarded by medical men as vested interests. It will be open, therefore, as far as professional considerations go, for any medical man in the borough to apply for the vacant appointments.

It is in every way satisfactory that the medical profession and the public authorities should have avoided disagreement upon a delicate issue. On the one hand, it is a legitimate grievance of a medical practitioner, who in accordance with custom has anticipated election to such posts, that he should be passed over, and in the case in question it was believed that this would occur. But, on the other hand, the municipality was placed in an impossible situation if it was represented to them that posts in their gift must pass in accordance with some scheme of purchase whereby the public does not benefit. Those who buy medical practices or medical partnerships ought to know that they cannot secure in this way the reversion to public appointments, though they can obtain a very good chance of being chosen to fill the vacancies caused by the retirement of their predecessor. We have nothing but admiration for the spirit of unity that has animated the local profession in this town—they have stood by their brother practitioner where they considered it fair to do so. But a spirit of discretion has prevailed at the right moment. A position was reached in which professional codes and public interests were made to appear antagonistic, and on every ground the matter became one for amicable settlement. A municipality must be held at liberty to choose whom they consider likely to serve the public best. As no one can for a moment suppose that such a man is likely to be obtained by importation after advertisement, there must always be a sound basis upon which the local medical profession and civic authorities can come to an agreement.

A New Domestic Medicine and Some Ethical Points.

On Feb. 26th the first instalment of a fortnightly "encyclopædia" of medicine for family use was heralded by advertisements in lay newspapers and by means of leaflets inserted in cheap and popular magazines. Such a form of commercial enterprise seems no great novelty in these times, and might well be allowed to pass unnoticed, were it not for the objectionable publicity given by the publishers of this work to the names of a number of medical practitioners. As our correspondence columns show, this unauthorised advertisement of their names, qualifications, and appointments has aroused instant protests from some of those concerned. From the letters which we print this week, and from many others which we have received, it appears that the assistance given to the editor of the "encyclopædia" by medical practitioners was given on the understanding, explicit or implied, that no unprofessional use should be made of their names. The tenor of the communications which have reached us is to the effect that the various consultants lent their aid to a brother practitioner, in their private capacity, by looking over, and in some cases correcting, his written accounts of conditions of which he could not have a specialised knowledge.

The publishers, however, not being bound by any limitations, have fostered the sale of the work by extraordinary advertisements representing it to be the product of coöperation between the editor and "thirty eminent medical and surgical specialists." Worse than this, a review, written by a layman, appeared in the *Daily Mail* simultaneously with the publication of the first instalment of this encyclopædia; and this review, an astonishingly silly piece of writing, violated every canon of professional taste, mentioned consultants by name, and in some instances cordially recommended them to the public. A prefatory statement to the "Family Encyclopædia of Medicine" mentions Dr. HUGH H. RIDDLE as the editor, sets out the names of 32 physicians and surgeons from whom it is said assistance has been obtained in named subjects, and contains the following passage: "When approached by his publishers to compile a thoroughly up-to-date and instructive work on the modern scientific treatment of disease, which could be readily understood by the layman, the editor refused even to consider the possibility of attempting a task of such magnitude until he had assured himself of obtaining active cooperation and assistance from a large number of his friends and acquaintances, including the above distinguished members of the profession," who are thereupon thanked. Dr. RIDDLE'S letter in our columns regrets the unfortunate publicity given in advertisements to the names of those who helped him and admits the breach of medical ethics which has occurred. But he appears to have overlooked the fact that he has suggested in his preface that active coöperation was given him in the compilation of his encyclopædia by the 32 medical practitioners whose names are prominently given in that preface, together with their various and in some cases dignified posts attached. We can imagine that some of those who acceded to Dr. RIDDLE'S request for literary and scientific help will dislike this description of their action.

After all, it is the profession of medicine that is offended. Most of the 32 victims enjoy a position so good in the eyes of their fellow practitioners that it will be taken for granted that they have been exploited. They can afford, perhaps, to think that little harm has been done. But this is not the case. The public reading the advertisements of, and the prefatory statement to, the first issue of the "Family Encyclopædia of Medicine" will gather the impression that there is no professional objection to medical men giving their names to, and cooperating in the production of, a work directed to the public and intended to instruct the public upon matters of medical treatment. That is an impression which it is one of the duties of the General Medical Council to correct. We are happy to state that a meeting of the medical men concerned has been called to consider the concerted measures to be taken in the interests both of professional ethics and public policy.

Princely Generosity.

In the London press at the end of last week there was revealed to the world a secret which to some extent was no secret. For when some year ago Prince ALEXANDER of TECK, chairman of the charity, announced at a quarterly court of the Middlesex Hospital that a donor who desired to remain anonymous had given a sum of £10,000, and had later increased this to £15,000, towards the foundation of an Institute of Pathology in connexion with the hospital, a good many people said one to another—"That is BLAND-SUTTON." In moving the adoption of the annual report and accounts of the hospital at a court of governors held on Feb. 26th Prince ALEXANDER of TECK was able to read a letter publicly from Sir JOHN BLAND-SUTTON, who stated that he had preferred to remain anonymous at the outset so that in the needful preliminary work he might not seem to claim any peculiar influence, but as the chief points in the organisation of the institution have now been agreed upon by his colleagues the need for anonymity is gone. Sir JOHN BLAND-SUTTON has made one of the largest donations that has ever been made by any medical man during his lifetime to a medical cause, and we cannot sufficiently admire the simplicity and singleness of purpose which his gift has displayed. There are no sort of conditions attached, there are no sort of stipulations. The donor knew that the scheme which he was thus prepared splendidly to support was on right scientific lines, and felt sure that its future could be arranged so that it should continue on those lines; while the scientific work of his life made him see that in these days a pathological institute to work in harmony with the clinical labours of hospital wards is absolutely needed in the cause of medical progress.

Annotations.

"Ne quid nimis."

THE LISTER MEMORIAL FUND.

THE committee of the Lister Memorial Fund has commissioned Sir Thomas Brock, R.A., to execute a medallion portrait of the late Lord Lister, to be placed in Westminster Abbey. This will form part of the International Memorial to commemorate the priceless services of Lord Lister to the cause of science and the alleviation of human suffering. Further subscriptions are required to enable the committee to carry out adequately the proposed scheme for the establishment of an International Lister Memorial Fund for the advancement of surgery. Among the subscriptions recently received are the following: American Surgical Association, £135; received through Dr. W. W. Keen, of Philadelphia, £35 (second donation); committee of surgeons in Holland, £125; Faculty of Medicine, University of Copenhagen, £109; members of the medical profession in Victoria (Australia), £91; medical and surgical societies in Japan, £31; Union of Swedish Hospital Surgeons, £20; Newcastle-on-Tyne committee and members of the Clinical Society, £113; City of Belfast committee, £54. Donations may be sent to the honorary treasurers of the fund (Lord Rothschild and Sir Watson Cheyne) at the Royal Society, Burlington House, W.

THE SYNTHESIS OF FOODSTUFFS.

IT is noteworthy that while we hear on all sides of the triumphs of synthesis in the manufacture of certain industrial products no practical success has so far been obtained in producing foodstuffs by synthetic means; and yet the elementary foodstuffs are less complex in composition than, say, rubber, indigo, or the numerous aniline derivatives, and a splitting up of food substances into simpler compounds is easy. Starch, for example, the leading representative of the carbohydrates, is readily converted into oxalic acid by oxidation methods, as by treatment with nitric acid, while sugar readily yields carbon and water when warmed with strong sulphuric acid. But the reverse processes are not known; starch has not been artificially built up from oxalic acid or sugar from carbon and water. Certain attempts have been made to elaborate foodstuffs out of the simple materials carbon, water, and nitrogen, but with results of no practical significance. No laboratory has yet been able to reproduce the synthetic methods of the plant or animal. With all his wonderful constructive successes the chemist has not yet made bread or any constituent of it on a commercial scale from the elements which compose it. Starches, proteins, and fats in significant quantities are so far exclusively the products of plant and animal activities. Now and again it has been announced that a step forward towards synthetic foodstuffs has been made by employing chemical or electrical agencies, but such experiments have led to no practical development. Later it has been stated that the synthesis of certain organic compounds can be effected by photo energy. It is confidently asserted that the sugars can be built up from carbonic acid gas and water by exposing these simple compounds to the action of ultra-violet light. We have already referred to the interesting observation that the ultra-violet rays are capable of starting chemical changes analogous to those produced by ferments or enzymes. In this case it is clear that biological action has been dispensed with, so that we need not be without hope that the so-called vital agencies may prove after all not to be essential to the production of foodstuffs. It is further remarkable that the ultra-violet rays are capable of decomposing carbonic acid, inasmuch as chlorophyll, under the influence of the sun's rays, effects the same process in the plant. When we come to understand in more definite terms the chemistry of the cell the chances of producing foodstuffs by synthesis will unquestionably be improved.

THE TREATMENT OF LEPROSY BY CHAULMOOGRA OIL.

WE commented in THE LANCET of Sept. 27th, 1913, on two cases of apparent cure of leprosy by injections of chaulmoogra oil combined with camphor and resorcin given hypodermically. These cases were reported by Dr. Victor G. Heiser, from the San Lazaro Leper Hospital, Manila. It was then stated that there were in the same hospital at the time of writing "a number of other cases" under treatment which had for varying periods presented only negative evidence as regards leprosy, though all of them exhibited typical lesions when the treatment with chaulmoogra oil was begun. Dr. Heiser now[1] reports the discharge of two of these cases after having been free from leprosy for two years. In the first two cases reported the conclusions to be drawn were somewhat obscured by the fact that immediately on their admission to hospital both patients received vaccine treatment, so that it was impossible to determine what share, if any, this may have had on the subsequent improvement. The present cases, however, received no vaccine treatment. As in the former instance, both cases were mild. In both there were typical leprous macules and the diagnosis was confirmed by microscopical examination. The first patient began treatment with chaulmoogra oil by the mouth, in 10-drop doses three times a day, on Jan. 7th, 1911, but owing to gastric intolerance weekly hypodermic injections of the chaulmoogra oil, camphor, and resorcin formula were substituted on Feb. 15th. The dose began with 1 c.c. and was increased gradually to 10 c.c. by April 20th, when it was gradually decreased to 1 c.c., to be again gradually augmented to the maximum dose. Treatment was discontinued from Oct. 15th, 1911, when examinations of the patient proved microscopically negative, to Jan. 7th, 1913. Then it was recommenced, raised to the maximum, and again decreased. On Oct. 30th, 1913, microscopical evidence of the disease having been absent for two years and there being no clinical evidence of the disease then existing, the patient was discharged on probation as apparently cured. The other case was similar. The treatment by injection was begun on May 4th, 1911, the maximum dose of the injection reached, however, being only 5 c.c., as attempts at larger doses caused severe palpitations and præcordial distress. The macules began to improve a few weeks after treatment was begun, and had entirely disappeared by August 25th, 1911, since which time all examinations have proved microscopically negative. This patient was discharged on probation on Nov. 4th, 1913, being apparently free from all signs of the disease. These two further cases materially strengthen the argument against the cases being instances of the unaccountable spontaneous disappearance of the disease that does undoubtedly occur at times. As we understand that there are still other cases under treatment increasing interest will be evinced in this cumulative evidence of its value. A letter appears elsewhere in this issue of THE LANCET on the question of the identity of chaulmoogra oil.

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[1] Public Health Reports of the U.S. Public Health Service, vol. xxix. No. 1, Jan. 2nd, 1914.

GOLDSMITH'S MEDICAL CAREER.

THE proposal to set up in London a replica of Foley's fine statue of Oliver Goldsmith, which stands with that of Edmund Burke at the gateway of Trinity College, Dublin, should serve as a reminder that the great Irishman struggled in practice as a physician in London, and that he suffered many disappointments and privations before his final success in literature was achieved. Goldsmith reached London in February, 1756, after a somewhat mythical tour in France and Italy. He was then in a state of utter destitution, and with difficulty, we must suppose, managed to become a chemist's assistant on Fish-street Hill, near the Monument. Later on, through the kind help of a Dr. Sleigh, he set up as a physician upon the opposite side of the river. Here he told a friend that he "was doing very well," but he was in a tarnished dress and a shirt a fortnight old. Reynolds once told an anecdote of the care with which Goldsmith at this time carried his hat so as to hide a patch in his coat. He tried all kinds of other employments, from that of usher to that of printer's reader, but returned as a *pis aller* to the medical profession, for which he had so little gift and for which he was at this time not "qualified" as the word is now understood. In December, 1757, he writes to his brother-in-law Hodson that he was making shift to live by a "very little practice as a physician, and a very little reputation as a poet." In August, 1758, he wrote three letters to friends in Ireland, begging them to get him subscribers for his forthcoming book, "On the Present State of Taste and Literature in Europe." The MS. of one of these letters was reproduced in 1858 by the modern representative of Griffin, Goldsmith's original publisher. It probably has often been torn from the collected edition of Goldsmith printed by Griffin in 1858, and has deceived the unwary collector of autographs. In this letter, which is addressed at great length to Mrs. Lawler, *née* Contarine, the cousin with whom poor "Goldie" had been in love in Ireland, he gives an account of his penury, none the less poignant for its tone of persiflage. He intends, he says, to adorn his room with "maxims of frugality." "These," he continues, "will make pretty furniture enough and won't be a bit too expensive, for I shall draw them all out with my own hands, and my landlady's daughter shall frame them with the parings of my black waistcoat. Each maxim is to be inscribed on a sheet of clean paper and wrote with my best pen, of which the following will serve as a specimen. 'Look sharp. Mind the mean (*sic*) chance. Money is money now. If you have a thousand pound, you can put your hands by your sides and say you are worth a thousand pounds every day of the year. Take a farthing from an hundred pound, and it will be a hundred pound no longer.' Thus which way soever I turn my eyes they are sure to meet one of those friendly monitors, and as we are told of an actor who hung his room round with looking-glasses to correct the defects of his person, my apartment shall be furnished in a peculiar manner to correct the errors of my mind." The sale of his book was to pay for his passage to Coromandel, where, through his friend Milner, he had obtained the position of physician and surgeon to a factory. His practice was to bring him in £1000 per annum, but evidently he was expected to qualify first. He must have been familiar with Smollet's description of an examination at Surgeons' Hall in "Roderick Random," but undeterred by this he presented himself before the examiners and was disqualified. The examiners were probably Messrs. Mark Hawkins, Fullagar, Nourse, Girle, Singleton, and Roul. The entry in the Royal College of Surgeons "Examination Book" under date Dec. 21st, 1758, states that before a Court of Examiners, held at the theatre, James Johnson was "appointed apprentice to Mr. Carson, Thomas Meggs qualified for surgeon to a regiment, James Bernard Mate to an hospital, Oliver Goldsmith, found not qualifyd for Do." At the same court four naval surgeons were also appointed. The poet, we now know, afterwards obtained the M.B. of Dublin (probably before 1761), and of Oxford in 1769.[1] His medical career in London, however, seems to have ended with his failure at the Royal College of Surgeons of England. He became famous in literature, even at a time when he was playing the flute to the ragged children at the foot of Breakneck Steps leading to his lodgings in Green Arbour Court. Sixty-eight pages are now devoted to his works in the British Museum Catalogue.

ENLARGEMENT OF THE SPLEEN IN EGYPT AND ITS SURGICAL TREATMENT.

IN the *British Journal of Surgery* for January there is one contribution possessing an interest that is wider than that of a purely surgical article. Professor Owen Richards, of Cairo, reminds us of the frequent occurrence of a very interesting form of splenomegaly among Egyptians, and gives a summary of the results achieved in 22 cases by splenectomy. The clinical features of this disease are such as to range it alongside of the syndrome usually described as Banti's disease, but it is in itself so definite a malady that Professor Richards prefers to retain for it a separate title—Egyptian splenomegaly. All of his 22 patients, with three exceptions, were males, and all belonged to the labouring class. Nearly always the symptom that brought them to seek advice was abdominal enlargement, which eventually reaches considerable proportions, as the admirable photographs illustrating the article prove. There is usually a history of fever in attacks which immediately precede the splenic enlargement. The other constant features of the disease are anæmia and cirrhosis of the liver often associated with ascites. With four exceptions, all the patients came for admission to hospital during the hot season. It is the hepatic lesion, with the malnutrition which it induces, that leads eventually to a fatal issue. Hæmatemesis is rare. The pathological change in the spleen, portrayed in some excellent microphotographs by Professor A. R. Ferguson, is a general hyperplasia, while the hepatic lesion is a monolobular cirrhosis. The probability of an infective origin is so obvious that this causation may be assumed, even though no parasite or bacterium has as yet been incriminated. Drug treatment, with quinine and salvarsan, has been unsuccessful. Of the 22 cases subjected to splenectomy, 4 ended fatally before the patients left hospital; in 2 of these extreme ascites was present, and this, in Professor Richards's opinion, constitutes a definite contra-indication to splenectomy. In 2 cases it was found impossible to complete the operation, but both patients recovered sufficiently to go home, one of them dying six months later. Of the others, the results in the first 10 cases are specially emphasised. One died five months after operation, the cause being unknown; 3 others could not be traced; and 6 were alive and well from nine months to two and a half years after operation. "Broadly," says Professor Richards, "the cases most suited for operation are those with big spleens and big livers, in which the disease is severe and progressive, but which have not yet reached the stage of ascites." Patients should be prepared for operation by a preliminary course of rest in bed, treatment of ankylostomiasis, and full diet, with drugs to counteract the anæmia. Operations to cure the ascites have without exception ended in disappointment. A full account of operative technique is given. The average weight of the excised spleen is about 3 lb. The chief operative risk is hæmorrhage, best avoided by systematic division of individual vessels between ligatures.

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[1] THE LANCET, Feb. 7th, 1914, p. 386.

GREEK AND ROMAN MEDICINE.

THE present year has seen already the issue of two works in the English tongue dealing with the history of medicine—the one a survey of the whole subject, from the pen of Dr. Fielding Garrison, principal assistant librarian of the Surgeon-General's Office, Washington, a monumental work; and the other a small book dealing only with Greek and Roman medicine, by Dr. James Sands Elliott, of Wellington, New Zealand.[1] To give a full account of medicine during even this comparatively short period of history (say, 2000 years) would entail the writing of a large work, and Dr. Elliott has wisely attempted only a sketch of the subject. By an inversion of history, of which he is fully aware, he begins with early Roman medicine and then goes back to Greek medicine, of which he gives an account down to the time of Serapion, of Alexandria, circa 280 B.C. The course of Roman medicine is then resumed and continued as far as a practitioner of the sixth century A.D.—namely, Paulus Aegineta, who was the last important member of the great school of Alexandria. If we may judge by most extant literature on the subject the art of medicine and its practitioners were not held in high estimation in Rome. Medical men were nearly all foreigners and mainly Greeks, hence the abuse which Cato and the elder Pliny poured upon them. It must be allowed that in many cases the medical man was very ignorant and illiterate, and that often the line between the quack and the trained practitioner was very narrow. But the coarse insinuations of Martial, Juvenal, and Petronius against the profession are probably no more true pictures of it as a body than the diatribes which used to appear in the political press about medical men in the early days of the Insurance Act. Seneca, in his treatise "De Beneficiis," writes with real good feeling of the medical man, and practitioners like the Stertinii enjoyed the confidence of the Cæsars and made enormous fortunes, though, of course, this latter fact does not necessarily mean that they were able practitioners, for quacks made as much or even more money than educated physicians in the heyday of Roman luxury. In his account of early Roman medicine Dr. Elliott speaks of Livy as saying that Numa Pompilius was struck by lightning and killed as the result of experiments in physical science, and that these experiments have been conjectured by some to have been electrical. This is an error; it was Tullus Hostilius and not Numa whom Livy describes (apparently on the authority of L. Piso) as being killed by lightning, and the "experiments" were religious conjurations which he was trying to perform after a formula left behind by Numa for bringing down lightning from heaven. Rain bringers or lightning bringers are found among savage medicine men to-day, and the story of Numa, together with those of Salmoneus and Remulus Silvius, the last two of whom were killed in the same way as Tullus, are evidently traditions of this kind of magic. It is not a wholly impossible point of view to suggest that these stories arose from there having been some daring investigator in primitive times who tried something analogous to Franklin's well-known experiment on atmospheric electricity with the kite. One of Franklin's followers tried the same experiment and was killed. The Etruscans studied lightning with assiduity, and Numa, who was a Sabine, was traditionally learned in natural philosophy; so he may have succeeded where others failed. This, however, is speculation, whereas Dr. Elliott, in his interesting little work, has collected many facts of value to the medical historian.

INJURY TO THE DESCENDING PORTION OF THE DUODENUM DURING REMOVAL OF THE RIGHT KIDNEY.

IN the *Journal of the American Medical Association* of Jan. 31st Dr. William J. Mayo has called attention to a serious injury to the descending portion of the duodenum—apparently previously unreported—which may occur during removal of the right kidney if infiltration about the pedicle of the kidney has caused close adhesion to the duodenum. It may be remembered that the duodenum in its descending course overlies the pedicle of the right kidney and a considerable portion of the inner part of the lower half of that organ. As this portion of the duodenum is retroperitoneal and more or less fixed, the accident is readily understood. During right nephrectomy the pedicle is loosened until it can be well surrounded with the fingers, clamped with forceps or tied, and as long as this method is followed the duodenum will not be injured. But when, on account of infiltration, such a pedicle cannot be formed the vessels may be torn with a resultant gush of blood, or, after removal of the kidney, the pedicle may retract from the forceps or ligature with sudden hæmorrhage. In the attempt to check this by grasping the vessels with forceps having strong biting jaws the duodenum may be seized. As a rule, the result is not manifest for several days. The injured part of the duodenum becomes necrotic and a duodenal fistula ensues. Dr. Mayo has known of three such cases. The first occurred many years ago when he was assisting a surgeon who was following nephrotomy by nephrectomy. Heavy biting forceps were left on the pedicle. On the fourth or fifth day began a copious discharge of biliary and pancreatic secretions and of food almost as soon as taken. The patient rapidly became exhausted and died in two weeks. In the second case a carcinoma of the renal pelvis was being removed, the result of irritation by a branched stone. The pedicle was extremely rigid from carcinomatous infiltration. In the attempt to remove it the vessels were torn across. With considerable difficulty they were caught by heavy toothed forceps, which were left *in situ*. On the fifth day a duodenal fistula was manifest. Biliary and pancreatic secretion and intestinal juices were passed in large quantities. The patient, already in a serious condition, developed acute nephritis in the remaining kidney and died from asthenia on the tenth day. The necropsy showed a large fistulous opening in the descending portion of the duodenum. The third case was one of duodenal fistula following nephrectomy and was seen in consultation. The pedicle had been infiltrated with inflammatory products and the kidney had torn across. The duodenum was injured in the application of heavy forceps. The fistula was small at first but gradually enlarged and the patient died two weeks after operation. A feature of all the cases was great irritation of the skin by the escaping secretions. In one case this set up eczema, which rapidly spread to a great part of the body. Another structure that is even more frequently injured in the same manner is the vena cava. When the renal pedicle is infiltrated the renal veins may tear away from the vena cava and the latter may be grasped in the forceps used to stop the bleeding. Since the occurrence of the second case Dr. Mayo has avoided the use of forceps in the first attempt to control the bleeding; he finds that they are seldom necessary. The fingers are so sure a means of temporary hæmostasis that they should be relied on and the forceps used only to clamp the vessels after they have been caught. With an adequate incision for the removal of the kidney, Dr. Mayo considers that injuries to the duodenum or failure accurately to secure the vessels will seldom occur. In two classes of cases, however, injuries to the duodenum, as well as to the vena cava, are liable to occur. When fixation and shortening of the pedicle takes place as the result of inflammation, usually in cases of pyonephrosis with stone, and especially following nephrotomy for such a condition, the attempt to remove the kidney in the ordinary manner renders accidents in securing the pedicle not infrequent. Tuffier's subcapsular nephrectomy is the proper procedure. In removal of carcinoma of the renal pelvis injuries to the duodenum are liable to occur. Here subcapsular nephrectomy would be inadequate, and the duodenum will be endangered by the most expert and careful surgery. When it becomes manifest that the accident to the duodenum has occurred Dr. Mayo would, before the patient is exhausted, make a transperitoneal attack on the fistula, lift the descending duodenum from its bed, suture the opening, transplant a flap of peritoneum or omentum across the suture line, and finally perform jejunostomy for temporary feeding purposes.

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[1] Outlines of Greek and Roman Medicine. By James Sands Elliott, M.D., Ch.B. Edin., editor of the New Zealand Medical Journal. London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 165. Price 7*s.* 6*d.* net.

THE ALLEGED SPREAD OF LEPROSY IN THE UNITED STATES.

FROM time to time waves of alarm respecting leprosy sweep over certain countries and create considerable disquietude in the minds of the public. There has been evidence of late, for example, in France concerning this question, and in official circles there it has been seriously debated whether an active campaign against the disease should not be undertaken forthwith under Government direction, more especially in regard of imported cases.[1] In the United States of America the same uneasiness respecting the importation of leprosy has recently been manifested, and our contemporary the *American Journal of Tropical Diseases and Preventive Medicine*, the official organ of the American Society of Tropical Medicine, has voiced this fear in an editorial published in the last issued number (Vol. I., No. 6). The writer of this, Dr. Isadore Dyer, one of the editors, in discussing the duty of the Federal Government regarding leprosy, deplores the lack of interest displayed by Members of Congress upon the subject. It is true that these members will promptly, when requested, sanction the expenditure of comparatively large sums of money for the treatment and prevention of the disease as well as for its experimental investigation in the American colonies and tributary islands; but when similar demands are made for funds to prevent the spread of the disease at home and for the scientific study of its etiology and treatment, the applications are met with apathy and indifference and the subject is allowed to drop. Only three States—namely, Louisiana, Massachusetts, and California—have so far adopted methods for the control of lepers by the State, although in nearly one-third of all the States comprised within the Union leprosy is known to exist in varying amounts; in some of them the need for State control is said to be very urgent. Fears are expressed that if the Federal Government does not intervene to deal satisfactorily with leprosy the danger will before long become universal. The United States are in frequent communication through shipping with countries where leprosy is widely prevalent, and inquiries have shown that in some ports of the United States foreign lepers have little difficulty in effecting a landing and passing thence into the interior, where they are soon lost sight of, but where they may spread the infection unobserved. This source of danger is stated to be rapidly increasing. Leprosy is known to be common in some of the foreign possessions and dependencies of the United States—e.g., the Hawaiian Islands, the Philippines (where at present some 5000 lepers are under supervision), and Porto Rico. Central America and the whole of the west coast of South America are reported to be full of the disease. Colombia, for instance, of which the Panama Canal Zone once formed a part before being taken over by the United States, was the seat of an inquiry recently, which revealed the fact that no fewer than 20,000 lepers existed in that country. According to Dr. Dyer, the United States is the only Government of any importance that does nothing towards the treatment and prevention of leprosy within its own borders at home, and he therefore urges Congress to deal with the matter before it is too late. We think that perhaps Dr. Dyer and his supporters are inclined to take a too gloomy view of the situation. It is believed at the present time by many experts that leprosy is only feebly contagious, and that for the propagation of the infection a very unhygienic environment is necessary. In Europe the disappearance of the disease has been associated with the removal of overcrowding of dwellings, the keeping of houses and persons in a cleanly condition, and the securing that human food shall be good in quality as well as sufficient in quantity, and if cases of leprosy are imported they must be treated under conditions of strict surgical cleanliness. When these points are carefully attended to there seems little likelihood that leprosy will spread, more especially in countries which possess efficient sanitary administration.

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[1] THE LANCET, Feb. 14th, 1914, p. 491.

INFECTION WITH THE BOVINE TUBERCLE BACILLUS.

THE communicability of the bovine tuberculous viruses from animal to man has been definitely proved, but the frequency with which such an infection takes place still gives rise to much difference of opinion. The majority of observers maintain that pulmonary tuberculosis is generally due to the human bacillus, being rarely caused by the bovine type, but that tuberculosis of the glands and joints is relatively more frequently brought about by the bovine virus. Evidence is now accumulating that when the joints (including the spine) are affected the human bacillus is most commonly concerned. With regard to glandular tuberculosis, the results obtained by different investigators have varied, but in this case again the predominant opinion appears now to be that the human bacillus is more often the causal agent. In the *British Medical Journal* of Jan. 17th of this year Dr. A. Philp Mitchell (Edinburgh) published an interesting "Report on the Infection of Children with the Bovine Tubercle Bacillus." After giving a description of the technique which he has employed for the cultivation of the bacilli and the methods of distinguishing the types of bacilli, he lays down the conclusions at which he has arrived. His material was derived from 72 consecutive cases of tuberculous cervical glands in children; of these 38 resided in Edinburgh and 34 came from neighbouring country districts (within a radius of 30 miles). Out of these 72 cases, in 65 instances (90 per cent.) the bovine bacillus was present, and in 7 cases (10 per cent.) the human bacillus. This is a remarkable result, and Dr. Mitchell acknowledges that it is widely different from that obtained by investigators in other countries, but he maintains that it can be verified by the recognition of several correlative factors. These are: (1) the age of the patients (he believes that the importance of examining a large number of consecutive cases of tuberculosis of the cervical glands in young children has not been sufficiently insisted on); (2) in none of the cases of bovine infection was a family history of tuberculosis noted; (3) the almost universal practice in Scotland of feeding children with unsterilised cow's milk; (4) the great prevalence in Scotland of tuberculosis in dairy cows, and in conjunction with this he draws attention to the present very inadequate veterinary inspection and the ignorance of the dairy farmers in matters relating to bovine tuberculosis; (5) the fact that about two-thirds of the Edinburgh daily milk-supply comes from small byres situated in rural districts round the city, where there is practically no supervision. These are important observations, the significance of which would be rendered much stronger if the suggestions are in the future corroborated by other workers, for if infection of the cervical glands in children is frequently acquired from a bovine source, legislation is imperative to protect the children, and Dr. Mitchell emphasises his contention that until such measures are obtained cow's milk should always be sterilised before being given to children. It will be interesting to see whether these conclusions are contested or supported by other investigators. They require most careful consideration.

ACUTE RHEUMATISM LOCALISED TO A PARALYSED LIMB.

IN a recent annotation[1] we called attention to a case reported to the Société Médicale des Hôpitaux of Paris in which chronic periarthritis of the hand followed herpes zoster of its dorsal aspect and of the forearm. From the beginning the patient complained of stiffness in the finger-joints. When the pain ceased the stiffness remained. After two years there was some improvement, but the hand could not be shut. Other French cases—arthropathy of the hand localised to the area supplied by the affected nerve root and two cases of zona of the upper limb followed by lesions resembling arthritis deformans—were mentioned. In a letter published in our columns on Jan. 10th last Dr. P. W. Latham stated that these cases seemed to illustrate and confirm in a remarkable manner the view, which he had held for many years, that "the progress of arthritis deformans is associated with and dependent upon irritative or destructive lesions of the anterior cornua of the spinal cord, the lesions being especially marked in the cervical and lumbar enlargements." He thought that in some of the cases of herpes zoster the irritation caused by the changes in the ganglion cells of the posterior roots might give rise to changes in the ganglion cells of the anterior horns and in the anterior nerve roots. In this way the nutrition of the muscles, bones, and joints, over which the ganglion cells of the anterior horns are supposed to exercise a controlling influence, would be modified and rheumatoid arthritis produced in the limb to which the affected nerve was distributed. At a meeting of the Société Médicale des Hôpitaux of Paris on Jan. 29th M. Georges Guillain and M. Jean Dubois reported a case which bears out the general doctrine of the dependency of arthropathy on nerve influence all the better as it was of quite a different kind, for there was not nerve irritation, but the withdrawal of nerve influence which evidently favoured the attack of the microbe of acute rheumatism. The patient was a man, aged 50 years, who had suffered from acute rheumatism 15 years previously. He fell and dislocated his right shoulder. Reduction was performed at the Necker

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[1] THE LANCET, Nov. 29th, 1913, p. 1560.

Hospital. Paralysis, most marked in the hand but involving the whole limb, followed. The only sensory trouble was a slight band of hypoæsthesia at the external border of the arm. There was a partial reaction of degeneration in all the muscles, increasing towards the extremity of the limb. Eight days after the accident acute polyarticular rheumatism occurred and was localised to all the fingers of the right hand and the right elbow. The joints were swollen and very painful, and the overlying skin was œdematous, preventing any passive movement. Under aspirin the attack passed off in ten days. The case is an excellent example of the localisation of an infection in an area of which the nerves are injured.

AT a meeting of Fellows of the Royal College of Surgeons of England held in Manchester on Feb. 25th, it was resolved that it is advisable that a member of the Manchester Medical School should be a candidate for the next ensuing vacancy on the Council of the Royal College of Surgeons of England, and it was agreed to nominate Professor W. Thorburn, senior surgeon to the Royal Infirmary.

THE Schorstein Memorial Lectures at the London Hospital Medical College will be delivered on Thursdays, March 19th and 26th, at 4.15 P.M., in the anatomical theatre, by Dr. Henry Head, F.R.S., physician to the hospital, who will take as his subject the Clinical Aspect of Syphilis of the Nervous System. Members of the medical profession are cordially invited to attend.

AMONG the 15 candidates who have been recommended by the Council of the Royal Society for election as Fellows are the following members of the medical profession: Dr. Arthur Edwin Boycott, professor of pathology in the University of Manchester; Dr. Henry Hallett Dale, director of the Wellcome Physiological Research Laboratories; and Dr. Diarmid Noël Paton, Regius professor of physiology in the University of Glasgow.

IT has now been settled that the dinner to Surgeon-General Gorgas and his assistants will be held on Monday, March 23rd, at 8 P.M., at the Savoy Hotel. We hope to learn that a good muster of the medical profession will take place on the occasion. The work done by Surgeon-General Gorgas and his staff in the Sanitary Department at Panama is famous throughout the world, and ought to receive from the medical profession of this country an enthusiastic endorsement.

UNIVERSITY OF LONDON.—Dr. F. H. Thiele, lecturer in bacteriology and immunity at University College Hospital Medical School and pathologist to University College Hospital, and Dr. Bernard Hart, lecturer on mental disease at University College Hospital Medical School, have been elected Fellows of University College. Dr. Peter Thompson, professor of anatomy in the University of Birmingham, has been elected a Fellow of King's College.—The twenty-first anniversary of the Union Society of University College will be celebrated on Thursday, March 19th, when the Foundation Oration will be delivered at 8.30 o'clock by Sir Edward A. Schäfer, F.R.S., professor of physiology in the University of Edinburgh, and first president of the society. The subject of the oration is Certain Desirable Adjuncts to a University Education. Academic dress will be worn, and there will be a reception and concert at 9.30 P.M.

ANNUAL REPORT FOR 1912 OF THE CHIEF MEDICAL OFFICER OF THE BOARD OF EDUCATION.

READING the last report of Sir George Newman, chief medical officer of the Board of Education, the mind turns for comparison to a general planning and directing the advance of an army. In the beginning come skirmishing paragraphs dealing with details in a manner designed to produce their effect but followed by a series of 16 solid divisions, each treating of some special section of the work, detailing the way in which the heavy fighting is done. In the "Conclusion" the general surveys the course of events, speaks of the issue of the fighting, and of the future. The whole effect of the report is one of simplicity and lucidity, which is attained not only by the presentation of facts but by the suppression of others which can be treated at another time. Yet so comprehensive is the scope of the report that we realise that the subject of school furniture gets hardly a mention with a shock of surprise.

In the "Conclusion" Sir George Newman says that "Medicine is the servant and not the master of education," but his conception of service is that of a great leader serving a great purpose. Medical inspection is "contributory to the larger business of education, it is also closely bound up with the work of public health," which again is only one part of "the apparatus of national welfare." Even the choice of words, "larger business of education," "*apparatus* of national welfare," shows the mind thinking in terms of big issues. We could wish that this way of handling big issues could be transferred more universally to the school medical service in all parts of the country. In some areas these conceptions do prevail and the work is moulded on them, but in others, those, for instance, from which are sent up the "almost worthless" reports, as the Board of Education stigmatises them, the medical inspection work is looked at from a narrow parochial standpoint. Let those parochial areas see themselves as they are, parts of the nation, and the work they are doing (monotonously routine although much of it may be) as part of a great national work, and not only will they see more truly but do their work better. As Sir George Newman says, "the local education authorities who take the widest and truest view of school hygiene and its responsibilities and possibilities are likely to secure not only the best medical officers but the most capable and enlightened service from those officers." Reference is also made to the value of "a reasonable variety of work" and "ample opportunities for research and inquiry," and local education authorities are urged to encourage their officers to undertake special practical inquiries.

All the 317 local education authorities have now in being machinery of a more or less complete kind for the medical inspection of the million and a half children it is annually necessary to provide for out of a school population of six millions. 1111 school medical officers and 742 school nurses are employed in the work, the teachers, without whom the work could not go on, coöperate heartily for the most part, while there is a large army of voluntary and associated workers more or less directly concerned in inspection and "following-up" work with reference to treatment. 241 of the education authorities have appointed the school nurses above mentioned, and in some cases they also act as school attendance officers.

The Province of the School Medical Officer.

Medical inspection is at present compulsory for the groups of "entrants" and "leavers" only, but in 1915 the Board of Education will demand inspection of an intermediate group. This intermediate age-group inspection is already carried out by 120 education authorities, and some have even examined all the children in their schools. In addition 122 secondary schools, about one-eighth of the total number upon which grant is paid, have been inspected. Children selected by teachers or others on account of some presumed defect for examination as "specials" account for another considerable addition to the routine, as do the special inquiries also. Of these latter, 38 examples are given (many of which have already been called attention to in reviews of the report of school medical officers published in THE LANCET), and cover subjects so diverse as night-sweating, nervous children, pigmentation of eyes and hair, the physical conditions associated with backwardness, heart affections, the relationship between enlarged tonsils and dental caries, the temperatures of school children, the fitting of school children's spectacles and the condition in which they are kept, ringworm "epidemic" schools, vision and vision-testing, and the health of red-haired children.

The field of operations of the school medical officer is thus a wide one, and one to which adjacent territory must in the nature of things be annexed as time goes on. The scope of school medical inspection itself widens, and to inspection must be added questions having reference to treatment, sanitation of schools, special schools for mentally and physically defective children, the teaching of hygiene and physical training, the feeding of school children, and employment during and after school life; for all of these are matters "so closely related to and so vitally connected with the physical condition of the child that it is desirable in all educational areas that they should be referred more or less directly to the school medical officer for advice." Sir George Newman also enumerates 15 Acts of Parliament upon which the school medical officer should be prepared to advise his authority in so far as they affect children's health; they range from the Public Health Act, 1875, to the Mental Deficiency Act, 1913, and include the Factory and Workshop Act, 1901, and the Labour Exchanges Act, 1909.

It is satisfactory to note that as the scope of the work increases the understanding of it by the general public and the coöperation with it by the parents of elementary school children improve on the whole. There are now extremely few "objections" to medical inspection, although the number of parents who attend varies much in different places. The report suggests that this is dependent upon the cordiality of the invitation and many other circumstances. The percentages (approximate) of parents attending vary from 10 per cent. in Denbighshire and Staffordshire to 76 per cent. in Berkshire and 81 per cent. in Hertfordshire, from 27 per cent. in East Ham to 75 per cent. in Exeter and 91 per cent. in Wolverhampton. On the value of parents attending at inspections and getting a medical opinion first hand there is probably not much doubt, but the possibility of this will depend on the nature of the parents' employment and distance of the school from the home among other factors.

The Private Practitioner and the School Medical Officer.

An interesting section reviews the relationship of the private practitioner and the School Medical Service and makes clear the attitude of the Board. It is shown that this service includes the work of the general practitioner, "though always within the ambit of the organisation for the administration of which the school medical officer is and must be responsible." The parts played by the general practitioner include part-time medical inspection, treatment in private practice of conditions discovered at inspection, treatment at upwards of 300 hospitals, and a small amount of treatment under the Poor-law. In addition treatment at school clinics has been given by 112 part-time medical officers and 70 dentists who were engaged in private practice also in the same areas; this, of course, in addition to school clinic treatment by whole-time officers. Private practitioners further come into the school medical organisation as medical officers of training colleges, of special schools, and as nominated under the Elementary School Teachers' (Superannuation) Act. While the school medical officer must necessarily be held responsible for the general supervision of the organisation, he does not interfere with the actual details of treatment nor come between the private practitioner and his patient, but he or his assistant inspects the child and in one way or another brings the patient to the doctor.

The School Clinic.

An increasingly important part is played by the school clinic, and with the increase of these institutions there goes a corresponding increase in the efficiency of treatment of school defects as a whole. There are now 97 authorities which provide medical treatment themselves, and 61 of these include dental treatment. London has 23 treatment centres and provides for 84,000 children annually. The County of Essex has eight centres, four being dental clinics; Birmingham has seven centres, Newcastle-upon-Tyne has three clinics, and Leicester has two. But the school clinic is not the only treatment agency the efficiency of which is being increased, and is by no means the only agency considered by the Board of Education in allocating treatment grants. For, as Sir George Newman points out, when the Board take into consideration the scope, character, and efficient working of the authority's provision and arrangements for securing the medical treatment of cases requiring it, this does not necessarily mean that the authority should themselves provide treatment. "*The essential thing is that the ailing child should obtain adequate treatment.*" (The italics are in the report.) However this result is efficiently secured it must be good. But if when all arrangements have been made any considerable proportion of the children remain untreated, it will be for the authority themselves to consider the necessary treatment.

Apart from school clinics other arrangements for treatment may be grouped under: (1) Employment of school nurses; (2) systematic provision of spectacles; (3) organised treatment of ringworm; and (4) contributions to hospitals 241 education authorities employ school nurses, 101 provide spectacles, and 37 contribute to hospitals. In considering grants for treatment the general efficiency of the school medical service as a whole is also considered.

The total number of authorities to whom a grant was made was 229, 45 counties, 65 county boroughs, 84 non-county boroughs, and 35 urban districts; the amount of the expenditure on which grants were paid was £78,016 15*s.* 2*d.* Of this £23,985 14*s.* 1*d.* were for medical treatment, £49,934 4*s.* 6*d.* were for ancillary work, and £4,096 16*s.* 7*d.* for the cleansing of verminous children. Among the largest grants made by the Board were, London £12,958 8*s.* 10*d.*, Sheffield £1502 4*s.* 6*d.*, Derbyshire £1315 17*s.* 11*d.*, and Bradford £1000 6*s.*, and the amount of the grant in some cases formed a very substantial part of the total expenditure.

The Cleanliness of the Child.

A large share of time and thought is still taken up with the consideration of verminous conditions, and the conscience of many parents has still to be awakened to the fact that filthy conditions are also very unwholesome. Nevertheless, substantial progress is being made. The London County Council cleansing scheme, which has served as a model to other authorities, is considered and described at some length. The number of cleansing stations now in use in London is 21, and the increase in the scope of the work is indicated in the figures for 1911, when 251,592 children were examined, and in 1912, when 630,359 were dealt with. In some areas the percentage of verminous children has fallen in the last five years from 22·0 to 12·75 (Berkshire), from 24·9 to 2·3 (Aberdare), and in the last four years from 31·1 to 5·1 (York). In a few areas increase has been noted, but this is ascribed to increased vigilance. In the Isle of Wight Dr. Walker has published a list of schools "in order of merit," *pour encourager les autres.*

Shower-baths are beginning to be introduced into the schools, but the provision is very slight in England as compared with some foreign countries. Only 20 education authorities (out of 317) possess school baths. Considering how difficult it is to teach the young of the upper and middle classes to be clean, with the aid of bathrooms and servants, and considering that the "morning tub" is popularly believed to be one of our national subjects of conversation, it is a little curious that the school bath, in which cleanliness could be taught, does not make more headway.

Defective Vision.

One of the ways in which school hygiene can be of most service is in preventing avoidable visual defect arising from causes within the control of the school organisation. No more damning commentary on the schools of this country could be penned than the sentence in this present report, which states that "the examination by Snellen's test-types is still hampered by bad lighting in the case of many schools. In Cumberland and elsewhere it appears that in a great number of schools the illumination is so poor that it has been impossible to test the vision of children within the school." In schools where the lighting is thus defective the eyesight of the children is being destroyed by a compulsory education from which they cannot escape. It is earnestly to be hoped that the Board of Education will use their powers to the full to bring this state of things to an end at the very earliest possible moment.

An account is given of an investigation into 1907 cases of visual defect by Mr. N. Bishop Harman in London. The investigation was carried out at the school clinic at Belgrave Hospital for Children, Clapham-road. 1670 cases were actually available for classification, and of these 781 were boys and 889 were girls. Of the total number (about) 80 per cent. were refraction cases and (about) 20 per cent. diseased conditions of the eye, and the figures give a useful index of the proportions any education authority may find itself called on to treat. Mr. Harman divides the 1420 refraction cases into eight groups, which can be considered as belonging 66 per cent. to the section of hypermetropia and 34 per cent. to that of myopia. Of the total cases, 16·2 per cent. (231 cases) had an error of refraction of 5 dioptres or more, 14·0 per cent. (199 cases) suffered from squint, 166 of these being convergent squint. The importance of good lighting (both natural and artificial) is considered at some length, and an important point brought out with regard to the necessity for resting the eyes by far vision. For the purpose of securing this rest the windows should be brought down to a level at or near that of the children's heads so that their eyes may from time to time rest on some object outside the schoolroom. There appears here something more than the germ of an interesting divergence of view between doctor and teacher!

The interim report of a committee of the Illuminating Engineering Society on artificial lighting is reproduced and commended to the attention of school managers and of local education authorities and their officers, as is also the report on school books in the 1911 report. This section does not seem strong enough, and we should like to see the Board of Education taking up a much firmer attitude on sewing in schools and on the type of school books. The report of the British Association Committee has put the question of the permissible type in school books on to a definite basis. Much is being done to treat visual defects, but it would be very much better national economy to prevent them.

(*To be continued.*)

Public Health.

ANNUAL REPORT OF THE INSPECTOR-GENERAL OF HOSPITALS AND CHIEF HEALTH OFFICER OF NEW ZEALAND.

AN instructive report for the year ended March 31st, 1913, has been submitted by Mr. T. H. A. Valintine, the chief health officer, to the Minister of the Department of Public Health, Hospitals, and Charitable Aid. Public health work in New Zealand is undertaken both by local and central authorities, but the direction and supervision of much of the work, particularly in regard to general and special hospitals, is considerably more centralised than is the case in England. The population of New Zealand is slightly over a million; the 1912 birth rate was 26·48, and the death-rate—the lowest hitherto recorded—was only 8·87. Among classes of deaths usually contributing to high mortality we find an infant death-rate of 51 per 1000 births, about half the English rate, while the phthisis mortality is also in about the same proportion—0·5 per 1000 of population. Death-rates from cancer and arterial diseases, on the other hand, are nearer to those for England and Wales, and are stationary or on the increase. A comparatively high mortality from organic heart disease (1·2 per 1000) is noticeable. In regard to tuberculosis, it is stated that 231 beds will shortly be available in special sanatoriums for consumptive patients. Farm and labour colonies for suitable cases have also been proposed, but progress with these institutions is unlikely in view of the serious demands which hospital expenditure generally has been making on public funds. A system of medical inspection of school children was decided upon in May, 1912, and a preliminary survey has been undertaken. The result, as in England, has shown that a larger number of children require treatment for illness or defect than was originally anticipated, and a considerable increase of central and local medical staffs for the purpose is considered necessary. An attempt has been made during the year to reorganise the native medical service, which hitherto appears to have been carried out on the system of giving small subsidies to medical men to undertake duties of medical practice among Maoris, which have been very ill-defined. The quarantine stations of the Dominion are reported to be in several respects out of date and likely to be quite insufficient "for the accommodation of the ship's company of a modern liner." This conception of the provision needed by the sanitary authority of a port is foreign to English ideas on the subject, as in this country it is usually considered sufficient to allow the healthy passengers and crew to go to their destinations, these being kept under observation by the local sanitary officers. Probably the apprehension of small-pox has caused the more extensive provision of quarantine accommodation to be entertained. From the reports of the medical inspectors of schools it would appear that only some 5 per cent. of the children examined have been vaccinated, and the danger of the introduction of an unrecognised small-pox case into the more thickly populated parts of the Dominion is naturally viewed with considerable alarm.

The year has seen the greatest advance in the administration of the New Zealand Sale of Food and Drugs Act since its passing in 1907. An extensive set of regulations has been made providing for the proper labelling of food packages; for a statement of weight of the contents; limiting the use of preservatives, flavouring, and artificial colouring matters; and for the protection of food from contamination. These regulations represent a considerable advance and are worthy of imitation, or at least of close attention and study, outside New Zealand. For the greater number of foodstuffs in ordinary household use standards have been prescribed, and conditions have been laid down for securing the cleanliness and freedom from contamination of meat products, milk, ice-cream, and ices. The "fraud of the label" has been very prominently brought out as a result of these regulations in connexion with a large variety of foods, and the insistence on the law requiring reasonable accuracy of statement cannot fail to have beneficial results to the public. It may be noted that patent or proprietary "medicines" containing alcohol must now be sold under labels stating the percentage of proof spirit which they contain.

Some interesting figures are given in regard to the organisation for hospitals and charitable aid throughout the Dominion, and a series of detailed reports relating to these institutions, obtained by inspectors of the central department, is contained in the volume. The total expenditure of the hospital and charitable aid boards during the year 1912–13 was £469,787, of which no less than £228,337 was in respect of hospital maintenance. The former sum represents about 9*s.* 6*d.* per head of population, and has steadily increased since 1902–03, when the corresponding incidence per head was 5*s.* 10*d.* Ten years ago, however, only 18·2 per 1000 of the population availed themselves of hospital treatment, as against 25·8 per 1000 last year. The number of beds available per 1000 of the population is now 3·03. The cost of the service, which apparently provides hospital accommodation for diseases and accidents of all kinds, is defrayed from Government contributions, levies on local authorities, payments by hospital patients, and voluntary contributions. The latter have a decidedly downward trend. Before 1885, when the hospitals were maintained by voluntary contributions and Government subsidy, one-ninth of the total expenditure was met by voluntary contributions; at present this proportion is only one-twentieth.

Among the special reports in the volume reference may be made to that on the maternity hospitals, from which it appears that in the four St. Helen's hospitals, respectively at Christchurch, Auckland, Wellington, and Dunedin, as many as 4303 births took place—about one-seventh of the total births during the year; and to that of the laboratory of medical pathology and vaccine station at Wellington, in which it is clear that much good and varied work is being done.

The examinations of the Royal Sanitary Institute in sanitary science were passed by 14 candidates, and those for inspector of nuisances by 39 candidates, during the year. Mr. Valintine points out that any proposals to conduct similar examinations departmentally are outweighed by the consideration that the certificates obtainable from the Royal Sanitary Institute have a standard value which is recognised throughout the British Empire.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8957 births and 5256 deaths were registered during the week ended Saturday, Feb. 28th. The annual rate of mortality in these towns, which had steadily declined from 18·4 to 15·0 per 1000 in the four preceding weeks, slightly rose to 15·1 per 1000 in the week under notic [illegible] mea [illegible] 16 6 [illegible] seve [illegible] Eal [illegible] East [illegible] 23 9 in Wigan, 24·2 in Burnley, and 28 0 in Barnsley.

The 5256 deaths from all causes were 53 in excess of the number in the previous [illegible] were [illegible] and [illegible] ths, [illegible] scarlet fever, and 8 from enteric fever, but not one from small-pox. The mean [illegible] last week was equal t [illegible] in the two precedi [illegible] to 115 last week, and [illegible] es of 1·1 in Sheffield, 1·2 [illegible] ton.), 1·4 in Smethwick, [illegible] Hartlepool, and 1·7 in Swansea. The deaths referred to measles, which had been 64, 89, and 115 in the three preceding weeks, declined to 101 last week; the highest death-rates from this disease were 1·6 in Leicester, 1·9 in Rhondda, 2·2 in Cardiff, 2·9 in Barnsley, and 5·7 in Burnley. The fatal cases of diarrhœa and enteritis (among infants under 2 years) which had been 66, 68, and 70 in t [illegible] 83 last week; of t [illegible] Liverpool, 6 in [illegible] Birmingham, an [illegible] to diphtheria, which had been 70, 64, and 52 in the three preceding weeks, rose to 72 last week, and included 17 in London and its suburban districts, 9 in Birmingham, 4 in Liverpool, 3 in Southampton, and 3 in Manchester. The deaths referred to scarlet fever, which had been 38, 37, and 33 in the three preceding weeks, were 34 last week, of which 7 were registered in Birmingham, 4 in Manchester, 3 in London, 3 in Oldham, and 2 in South Shields. The fatal cases of enteric fever, which had been 21, 14, and 17 in the three preceding weeks, declined to 8 last week, and included 2 in Leeds.

The number of scarlet fever pat [illegible] the Metropolitan Asylums and the [illegible] which had declined from 3599 to [illegible] weeks, had [illegible] cases were [illegible] against 559, 426, and 351 in [illegible] These hospitals also contain [illegible] of diphtheria, 315 of whooping [illegible] enteric fever, and 1 of small-p [illegible] causes in London were 8 fewer than the number in the previous week, and were equal to an annual death-rate of 14·1 per 1000. The deaths referred to diseases of the respiratory system, which had declined from 425 to 245 in the four preceding weeks, were 243 last week, and were 144 below the number recorded in the corresponding week of last year.

Of the 5256 deaths from all causes in the 97 towns, 156 [illegible] of violence, and 350 were [illegible] The causes of 50, or 1·0 [illegible] week 12 were [illegible] London, 4 in [illegible] Gloucester.

HEALTH OF SCOTCH TOWNS.

In [illegible] popula-tion [illegible] year, 1278 [illegible] the week [illegible] ite of mort [illegible] from 20 9 [illegible] ose to 17·5 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 18·9, against a corresponding rate of 16·8 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 6·3 in Falkirk, 7·7 in Perth, and 11·3 in Motherwell, to 19·2 in Dundee, 20·9 in Edinburgh, and 21·1 in Clydebank.

The 770 deaths from all causes were 43 in excess of the number in the previous week, and included 98 which were referred to the principal epidemi [illegible] rising from 68 to 82 in the three [illegible] 98 deaths, 48 resulted from measl [illegible] from whooping cough, 13 from [illegible] and 11 from diphtheria, but not one from enteric fever or from small-pox. *These 98 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·2, against* 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 34, 41, and 42 in the three preceding weeks, further rose to 48 last week, of which 28 occurred in Glasgow, 9 in Edinburgh, 4 in Ayr, and 3 in Leith. The deaths referred to scarlet fever, which had been 6, 7, and 6 in the three preceding weeks, rose to 13 last week, and included 4 in Glasgow, 3 in Edinburgh, 2 in Dundee, and 2 in Kirkcaldy The fatal cases of whooping-cough, which had declined from 7 to 3 in the four preceding weeks, rose to 13 last week; 7 deaths were recorded in Glasgow, 3 in Coatbridge, and 2 in Paisley. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 7, 8, and 16 in the three preceding weeks, fell to 13 last week, of which 7 were registered in Glasgow. The fatal cases of diphtheria, which had been 15, 12, and 14 in the three preceding weeks, declined to 11 last week, and comprised 4 in Glasgow, 3 in Aberdeen, 2 in Edinburgh, and 2 in Dundee

The deaths referred to diseases of the respiratory system, which had decreased from 230 to 143 in the six preceding weeks, further fell to 116 in the week under notice; 15 deaths were attributed to various forms of violence, against numbers declining from 36 to 22 in the four preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 618 births and 480 deaths were registered during the week ended Saturday, Feb. 28th. The annual rate of mortality in these towns, which had been 21·9, 18 9, and 19 1 per 1000 in the three preceding weeks, further rose to 20 8 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean [illegible] eraged 21·9 per [illegible] responding rate [illegible] wns it was equal [illegible] week was equal [illegible] 17·5 in Glasgow), [illegible] onderry, 29 8 in [illegible] the 21 smaller [illegible] in excess of the [illegible] and included 35 which were [illegible] 2·2 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 7, 8, and 10 in the three preceding weeks, were 9 last week, of which 4 occurred in Belfast, 2 in Dublin, and 2 in Cork. The deaths referred to measles, which had been 8, 5, and 3 in the three preceding weeks, rose to 8 last week, and comprised 7 in Dublin and 1 in Lisburn. The fatal cases of scarlet fever, which had been 10, 9, and 3 in the three preceding weeks, rose to 8 last week, of which 6 were registered in Belfast and 2 in Dublin. The 6 deaths [illegible] of which 4 occurred in Belfast, [illegible] earlier weeks of the quarter. [illegible] ere recorded in Dublin, and [illegible] ver in Dublin and Clonmel [illegible] exceed 1·0 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Robert Howard Nicholson has been placed on the Retired List at his own request (dated March 1st, 1914).

The following appointments have been notified:—Fleet-Surgeons: E. R. Grazebrook to the *Neptune* on transfer of flag; and W. J. Colborne to the *Iron Duke* and for general staff duties on commissioning. Staff-Surgeons: E. A. G. Wilkinson to the *Iron Duke* on commissioning; G. Nunn to the *Neptune* on transfer of flag; J. Whelan to the *Exmouth;* P. T. Sutcliffe to the *Cyclops;* and R. F. MacMahon to the *Hindustan.*

ARMY MEDICAL SERVICE.

Colonel Edward Butt, from Half-pay List, is placed on retired pay (dated March 4th, 1914).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated March 1st, 1914):—Brevet Major Arthur B. Smallman, Wentworth F. Tyndale, C.M.G., William F. Ellis, Ralph B. Ainsworth, Charles A. J. A. Balck, Dudley S. Skelton, Philip G. Easton, and Richard Rutherford.

Colonel J. Maher has taken up duty as Assistant Director of Medical Services at Gibraltar.

Lieutenant-Colonel E. Eckersley has been selected for the increased rate of pay under Article 358 of the Royal Warrant for Promotion. Lieutenant-Colonel C. W. H. Whitehouse has been appointed to hold charge of the Military Hospital at Hilsea. Lieutenant-Colonel J. F. Donegan has embarked on the transport s.s. *Plassy* for a tour of service in India. An exchange of duty in India has been effected between Lieutenant-Colonel H. E. Winter to the Sixth (Poona) Division, vice Lieutenant-Colonel G. A. T. Bray to the Home Establishment. Lieutenant-Colonel D. M. O'Callaghan has been transferred from Hilsea to Dover and appointed to hold charge of the Military Hospital, vice Lieutenant-Colonel F. R. Newland. Lieutenant-Colonel G. G. Adams has arrived home on leave of absence from the Military Hospital at Secunderabad Cantonment. Lieutenant-Colonel H. C. Thurston has been restored to the Establishment, vice Lieutenant-Colonel A. R. Aldridge, retired. Lieutenant-Colonel T. B. Winter has relinquished charge of the Military Hospital at Colchester. Lieutenant-Colonel A. L. E. Bate has joined the Woolwich District.

Major S. L. Cummins has been appointed Professor of Pathology and Bacteriology at the Royal Army Medical College, vice Brevet Colonel and Lieutenant-Colonel Sir William Leishman. Major E. P. Hewitt has been placed temporarily on the Half-pay List on account of ill-health. Major J. G. Foster has arrived home on leave of absence from the Military Hospital at Ahmednagar Cantonment. Major C. W. Reilly has taken over charge of the Military Hospital at Bodmin. Major J. Crawford Kennedy has embarked for a tour of service with the Eighth (Lucknow) Division of the Northern Army in India. Major J. H. R. Bond has arrived home on general leave of absence from the Military Hospital at Naini Tal. Major W. A. Ward has been appinted to the Southern Command. Major S. de C. O'Grady has been appointed to the Aldershot Command for duty. Major N. H. Ross has been appointed Specialist in the Prevention of Disease and placed in charge of the Research Bacteriological Laboratory at Brigade Headquarters, Fyzabad Cantonment. Major H. F. Shea has been appointed Specialist in Operative Surgery at Lahore. Major N. E. J. Harding has taken up duty as Medical Officer at the Tower of London. Major T. B. Unwin has arrived home on general leave of absence from the Military Hospital at Mount Auriol, Sierra Leone Protectorate. Major W. R. Blackwell has been appointed for temporary duty at the Medical Division of the War Office on arrival home from Lucknow.

Captain H. W. Russell has been appointed to the Military Hospital at Ambala Cantonment. Captain C. R. Millar has taken up duty in the Irish Command. Captain A. W. Byrne has taken up duty as Sanitary Specialist to the Third (Lahore) Division. Captain D. de C. O'Grady has been appointed to the Eastern Command. Captain J. R. Foster has taken up duty in the Irish Command on transfer home from India. Captain G. G. Collet has been appointed Specialist in Dermatology to the Seventh (Meerut) Division. Captain A. H. Heslop has been transferred from the Indian to the Home Establishment. Captain T. S. Coates has taken up duty in India. Captain H. L. Howell has been transferred from the Military Hospital at Ahmednagar Cantonment to Kirkee. Captain T. W. Browne has arrived home for duty from the Military Hospital at Jhansi. Captain W. A. Spong, staff-surgeon at Karachi Cantonment, has been granted six months' general leave of absence home from India. Captain C. W. Bowle has been appointed to the Irish Command. Captain J. J. O'Keefe has arrived home for duty from the Military Hospital at Naini Tal, tour expired. Captain G. F. Dawson has been transferred from the Military Hospital at Chakrata to Bareilly Cantonment. Captain F. Worthington has arrived home for duty from Ceylon. Captain A. G. Wells has been transferred from the Military Hospital at Kasauli Cantonment to Ambala. Captain T. H. Scott has arrived home for duty from Ferozepore Cantonment, tour expired. Captain J. Mackenzie has relinquished duty at Pirbright and embarked for India. Captain B. A. Odlum has been seconded for service under the Colonial Office. Captain W. H. S. Burney has been transferred from the Military Hospital at Campbellpore to Ferozepore Cantonment. Captain E. M. Middleton has arrived home for duty from Rawal Pindi, tour expired. Captain E. C. Phelan has been appointed for duty on board the transport s.s. *Plassy*, leaving Bombay for Southampton on March 12th with invalids. Captain J. R. Lloyd has been transferred from the Military Hospital at Jubbulpore Cantonment to the Aden Brigade. Captain H. J. Crossley has relinquished duty at Richmond (Yorks) and embarked for India. Captain D. M. Corbett has been appointed for duty on board the transport s.s. *Rohilla*, leaving Karachi on March 19th with time-expired troops for Southampton Docks. Captain F. J. Stuart has been transferred from the Military Hospital at Chakrata to Meerut Cantonment. Captain A. W. Howlett has arrived home for duty from Bareilly Cantonment, tour expired. Captain N. Low has been selected for appointment as Specialist Sanitary Officer to the Eastern Command, North of Thames area, vice Major P. S. Lelean, appointed Assistant Professor of Hygiene at the Royal Army Medical College.

Lieutenant E. V. Whitby has been transferred from the Military Hospital at Kilworth Camp to Fermoy. Lieutenant J. R. Hudleston has left the Aldershot Command and embarked for a tour of service in Jamaica. Lieutenant C. Helm has been transferred from the Military Hospital at the Curragh Camp to Dublin. Lieutenant M. Burnett has taken up duty at the Military Hospital, Gosport, on transfer from Winchester. The following Lieutenants have embarked for a tour of service in India: C. J. H. Little, S. J. Barry, E. P. A. Smith, J. M. Elliott, F. R. B. Skrimshire, E. A. Strachan, H. W. L. Alcott, and O. W. J. Wynne. Lieutenant H. J. G. Wells has been appointed to the Military Hospital at Rawal Pindi Cantonment to undergo a special course in Indian sanitation and hygiene. Lieutenant W. Stewart has joined at Lucknow. Lieutenant F. C. Cowton has been appointed to the Eastern Command. Lieutenant N. T. Whitehead has taken up duty in the London District. Lieutenant H. S. Blackmore has been appointed to Bangalore. Lieutenant W. V. Corbett has been appointed to the London District. Lieutenant R. B. Price has taken up duty at the Queen Alexandra Military Hospital. Lieutenant A. S. Heale has embarked at Malta for a tour of service in India.

INDIAN MEDICAL SERVICE.

The King has approved of the promotion of the following officer from Lieutenant to Captain: Walter Oliphant Walker (dated Oct. 22nd, 1913).

The King has approved of the admission of the undermentioned to the Indian Medical Service as Lieutenants on probation (dated Jan. 31st, 1914): George Henry Mahony, William Ross Stewart, Gordon Covell, John Gregory Owen Moses, Koty Venkata Ramana Rao, Hari Chand, Jacob William van Reenen, Venkatasubba Mahadevan, Alured Charles Lowther O'Shee Bilderbeck, Maurice James Roche, Basil Fraser Beatson, Nehchal Das Puri, Prabodh Chandra Roy, Monindranath Das, Jagannath Balkrishna Vaidya, Joseph Martin Reeves Hennessy, William Mawhood Lupton, Alfred Glen Cowper, Hubert Horan Brown, and Charles Henry Niel Baker.

The King has approved of the confirmation of the commissions of the following Lieutenants on probation with effect from July 26th, 1913: Sahib Singh Sokhey, Atul Krishna Sinha, Subramanya Doraisamy, Allan Seddon, James Findlay, William Collis Spackman, Jyotish Chandra De, Nanalal Maganlal Mehta, Robert Morrison Easton, Charles Henry Powell Allen, Peregrine Stephen Brackenbury Langton, and Reginald Victor Martin.

The King has approved of the retirement of the undermentioned officers:—Surgeon-General Henry Wickham Stevenson, C.S.I. (dated Jan. 10th, 1914). Major Maxwell Dick (dated Feb. 13th, 1914).

Surgeon-General H. W. Stevenson, C.S.I., has relinquished charge at Bombay.

Colonel P. Hehir, Assistant Director of Medical Services to the Sixth (Poona) Division, has been selected to officiate as Deputy Director at Army Headquarters during the absence on seven months' leave of Colonel H. Hendley. Colonel R. W. S. Lyons has taken up duty as Assistant Director of Medical Services to the Third (Lahore) Division of the Northern Army in India.

Lieutenant-Colonel J. Penny has been granted an extension of leave of absence home from India on medical certificate for four months. Lieutenant-Colonel J. M. Crawford has been appointed Civil Surgeon at Benares on return to India from leave of absence.

Major W. T. McCowen has arrived home on leave of absence from India. Brevet Major S. R. Christophers, Assistant Director to the Central Research Institute at Kasauli Cantonment, has been appointed to officiate as Director during the absence on leave of Major W. F. Harvey, or until further orders. Major R. F. Baird, civil surgeon at Benares, has been transferred to Gonda. Major J. G. Swan has joined at Dalhousie. Major R. M. Dalziel, superintendent of the [illegible] home on leave of absence [illegible] C.I.E., has been reverted [illegible] Director of the Bombay [illegible]

Captain H. H. Broome has taken up duty as Professor of Anatomy at the Government Medical College, Lahore, vice Captain R. H. Bott. The services of Captain H. R. Dutton have been replaced at the disposal of the Government of Bengal Presidency. Captain J. Morison has arrived home on leave of absence from India. Captain E. W. Witham, medical officer in charge of the Assam Valley Light Horse, has been granted leave of absence home from India for one year. Captain A. D. Stewart has been appointed to officiate as Medical Officer of Health at Simla, vice Captain R. A. Need [illegible] deputation duty under [illegible] Government of India. [illegible] in charge of the 38th [illegible] appointed for temporary duty in the Civil Medical Department of Bombay Presidency. Captain H. Halliday, civil surgeon on special duty with the Clerical Services Committee at Lahore, has been appointed to Lyallpur. Captain H. C. Keates, plague medical officer at Lahore, has been appointed Plague Medical Officer at Hoshiarpur. Captain C. G. Seymour has arrived home on leave of absence from India. The services of Captain D. D. Kamat have been placed at the disposal of the Government of Bombay for civil employment.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant John H. C. Grene resigns his commission (dated March 4th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd Home Counties Field Ambulance, Royal Army Medical Corps: Horace Townsend Newman Merrick to be Lieutenant (dated March 4th, 1914).

2nd London Clearing Hospital, Royal Army Medical Corps: Captain Frederick William Higgs, from the List of Officers attached to units other than Medical Units, to be Captain [illegible]

[illegible] *than Medical Units.*—Lieutenant [illegible] Captain (dated Oct. 29th, 1913). [illegible] resigns his commission, and is [illegible] his rank and to wear the [illegible] 4th, 1914).

[illegible] *than Medical Units.*—James Ettershank Gordon Thomson to be Lieutenant (dated Dec. 27th, 1913). [illegible] (dated Jan. 3rd, [illegible] Lieutenant, 3rd [illegible] West Surrey Re[illegible] 1914).

Supernume[illegible] Quartermast[illegible] with the Un[illegible] Officers Trai[illegible] the medical [illegible]

DEATHS IN THE SERVICES.

Deputy Inspector-General [illegible] George Moore, R.N., retired, at his [illegible] Bristol, in his eighty-seventh [illegible] in 1848, was promoted to st[illegible] surgeon in 1870, becoming de[illegible] in which year he retired. As senior assistant-surgeon he served in the *President*, flagship of Rear-Admiral Price, during the Russian war in 1854-55, and was present at the [illegible] [illegible]ded for his services, [illegible]urgeon in 1857). He [illegible] during the civil war [illegible]t the capture of the [illegible]l *Alucausa*, and subsequently on their being forcibly removed from Cartagena [illegible]nts.

[illegible] (retired), i[illegible] 25th. He [illegible]e rank of staff-surgeon in 1890, fleet-surgeon in 1899, and retired in the following year.

Captain Percy [illegible] R.A.M.C., on Feb. 10th, at Sierra Leone, aged 32. [illegible] and was promote[illegible] years in Jamaica he went to Africa, where he served on the West Coast.

THE HEALTH OF THE UNITED STATES ARMY.

The report of the Surgeon-General of the United States Army for the year ending June, 1913, points out that the non-effective rate—that is, the statement of the average number c[illegible] by disease or injury [illegible]e measure of the l[illegible] disease or injury. [illegible]y far the lowest o[illegible] has also improved, and the occurrence of venereal diseases has been controlled. This last improvement is the result of the propagan[illegible] prophylaxis, [illegible] of pay by ac[illegible] diseases. W[illegible] improved sanitation and the exercise of care in the selection of recruits have caused the disease to diminish steadily. A diminution in the admission rate for *malarial fevers is also shown, although the admission*-rate for these fevers in the Philippine Islands was higher than it has been in any year since 1906. "Finally," says the Surgeon General in his introduction, "it is being demonstrated day by day in the camps of Texas City and Galveston that troops properly protected by vaccination against small-pox and typhoid fever can live in camps properly located with the present system of camp sanitation for an indefinite length of time without any increased morbidity among the troops." Attention is again drawn to the great deficiency in the number of hospital corps.

ROYAL SUSSEX COUNTY HOSPITAL, BRIGHTON.—Some striking comparative figures were presented in the annual report submitted to the general court of governors of this hospital on Feb. 26th. The number of out-patients and the casualties treated showed a remarkable decrease, and was accounted for by the working of the National Insurance Act. The number of out-patients during last year—and the hospital is the largest general hospital south of London—was 8783, against 10,568 in the previous year, and the number of attendances in the out-patients' department 32,197, a decrease of 7532. The casualties were 5396, against 6972, and the casualties dressed in the out-patients' department 11,232, a decrease of 7024. The demands upon the in-patients' department showed an increase. The new president of the hospital for the ensuing year is Sir John H. Luscombe, J.P., High Sheriff of Sussex.

THE WOMEN'S HOSPITAL FOR CHILDREN.—By the kindness of Sir John Bland-Sutton an entertainment was held in the Persian Hall, 47, Brook-street, W., in aid of this young and much needed charity on Saturday last, Feb. 28th. The hospital is at present housed in the Harrow-road, London, W., but a promising start has been made with a building fund, larger premises in the neighbourhood being required. The programme of the entertainment included violin solos by Miss Winnie Game; three songs by Mr. G. Pyman; a series of original dances arranged by Miss Edith Willoughby Brown and accompanied at the piano by Miss J. C. Macdonald, who also composed some of the music; solo dances by three children, Miss Fay Yeatman, Miss Mary Saunders, and Miss Mary Richards; country songs by the three little children of Dr. R. O. Moon; and a fairy tale play for nine children founded on Christina Rossetti's "Goblin Market," the dances here also being arranged by Miss Willoughby Brown. During an interval in the programme, Mrs. Kendal eloquently pleaded the cause of sick children in a brief speech. The entire and considerable profits of the entertainment have been handed to the hospital, Sir John Bland-Sutton having defrayed all expenses as well as having lent his house.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

SCOTLAND.

Tuberculosis in Edinburgh.

CONSEQUENT on the changes found necessary for the administration of treatment and general organisation of tuberculous patients under the National Insurance Act, which include the transference of Poor-law consumptives to the town authorities, a scheme is now on foot for the transference to the corporation of Edinburgh of the Royal Victoria Hospital for Consumption and its allied institutions. In view of the comprehensive scheme to be undertaken by the local authorities it has for some time been considered that all the institutions and agencies at present engaged in the prevention and treatment of tuberculosis in the city should be amalgamated and organised as units of one central depôt. It is therefore proposed that the Royal Victoria Hospital, with its Tuberculosis Dispensary in Spittal-street, and its Farm Colony at Lasswade, should be absorbed by the corporation authorities, who already have increased their accommodation at Colinton Mains Hospital in order to deal with tuberculous cases, and have taken over all patients with positive swabs from the Poor-law institutions within the city boundaries. The provisional conditions of the draft lay down that the Victoria Hospital is not to be used for the isolation of advanced cases, and that as many as possible of the medical staff, nurses, and others at present employed shall be taken over if they are willing to enter the service of the corporation. Further, it is proposed that, notwithstanding the transfer of the other concerns, the present trustees of the Royal Victoria Dispensary shall continue to act under the constitution and rules of that institution in promoting the advancement of medical and surgical science, with reference to tuberculosis and allied diseases, for which purpose the trustees are in possession of various invested funds, and they shall be entitled to receive any fresh moneys left for this object. Such funds may be applied to the establishment of a chair or lectureship in the University of Edinburgh. In the event of this the corporation are to give all reasonable facilities for teaching in connexion with their institutions.

The Care of Imbecile Children in Scotland.

At the fifty-third annual general meeting of the Scottish National Institution for the Education of Imbecile Children Dr. R. D. Clarkson reported that the number of children cared for had been larger than ever before, the average number on the register being 377, or 18 more than last year. The chairman (Sir David Paulin) said that for 53 years the institution had been doing a great national service. Referring to the Mental Deficiency Act, which is to come into operation in May, he said that so far from the Act diminishing the usefulness of the institution it would, so far as regards educable, and perhaps also ineducable, children, place greater demand than ever on the available accommodation. In any case, as there was no immediate prospect of any other accommodation being provided for imbecile children in Scotland, and as the requirements of the Act upon local authorities would at once become urgent, there would necessarily be a great demand upon the accommodation of this institution. At the present time these demands were excessive, and the directors must at once take steps to provide for more patients and thus be enabled better to fulfil its purpose.

The Edinburgh Day Nurseries Association.

At the annual meeting of this association the report showed that the attendance at the nurseries during the past year numbered 26,013, an increase of 846 over the previous year. The accounts showed that, although the annual subscriptions were well kept up, there was a deficiency on the year's work of over £30. The Lord Provost, in moving the adoption of the report, said that the idea of the nurseries was to help those who were prepared to help themselves—namely, the hard-working widow, or the wife whose husband was for any reason out of employment and she was therefore the breadwinner. In addition to these worthy cases, there unfortunately existed many cases where the husband was neglectful, lazy, intemperate, and altogether unemployable, and here the brunt of keeping the home together fell upon the wife. Under these conditions it was a great help and relief to know that the little children were being properly cared for in their absence, and it was for this purpose that the day nurseries existed. That the mothers appreciated what was done for them was evidenced by the fact that of the total expenditure of £507 more than one-half was met by the mothers' payments. The Stockbridge Nursery had recently added a training school for children's nurses to its work, the total expenditure on which for last year showed a shortage of £225. The pupils' fees, however, were only for six pupils at the original fee of £25, and two at the increased fee of £30, whereas the full complement was 14 pupils per annum, which, at £30, would bring in a sum of £420, or nearly enough to balance the expenditure and income. The full number of pupils were now in residence, and it appeared likely from the number of applications which had been received that there would not be much difficulty in the future in keeping up to the maximum, and the school and crèche should become self-supporting.

The Royal Edinburgh Asylum for the Insane.

The annual meeting in connexion with this institution was held on Feb. 23rd, when Dr. G. M. Robertson, the physician-superintendent, read his report. He again strongly emphasised the importance of alcoholism as a cause of insanity, and also stated that there was no evidence to show that the wear and tear of modern life tended to increase insanity, but that rather the opposite seemed to be true. Insanity was more prevalent in rural districts with falling populations, but a cause for this might be found in the migration of the more fit either abroad or to more congested areas.

Post-graduate Teaching in Edinburgh.

In addition to the courses in July, August, and September, already advertised, there will be a special course on midwifery and gynæcology during the latter half of August. Particulars can be had from the secretary, New University Buildings, Edinburgh.

The Newmains Medical Dispute.

Attention has been drawn by me to a dispute between the Lanarkshire Miners' Union and the Newmains doctors, and since then an interesting development has taken place. Last year by large majorities the men employed in Coltness Ironworks, Allanton Foundry, the Coltness Collieries, and Chapel and Morningside Collieries agreed to pay their doctors the flat rate of 2½*d.* per week for attendance on the dependents of workmen. Shortly after the Lanarkshire Medical Association was formed, which, in conjunction with the Miners' Union, formed a scheme of medical service. After a few meetings the flat rate of 2*d.* was agreed upon. The county doctors were much disappointed at the result, and many of the men in the rural areas agreed to come into the scheme only on condition that the agreement was temporary, and that the question of rates in rural areas would get special consideration in the immediate future. The miners' officials agreed at the time that there was a case for the rural doctors, but little so far has been done to remedy matters, and the doctors in the scheme are becoming more and more dissatisfied. A number of these refused to recognise the scheme, but their opposition generally collapsed when the Miners' Union brought pressure to bear on them, and now very few medical men in the county are outside the scheme. The Miners' Union took a ballot of the men in Morningside and Chapel Collieries, when a large majority declared in favour of the flat rate of 2*d.* On the Newmains doctors being notified of the result of the ballot they posted a notice at the pits informing the men that they declined to attend them at that rate, and intimated, in the event of the ballot coming into force on Feb. 27th, the resignation of their appointments. The friendliest relations have always existed between the miners and their doctors, and when the men received the resignation of their doctors they resolved to reconsider the matter and take a fresh ballot, with the result that the previous one was reversed, and a majority of 300 declared in favour of paying 2½*d.* as formerly. The Miners Union now refuses to accept the second ballot of the men, and as the men are in full agreement with the doctors and are resolved to abide by the last ballot notwithstanding the union, a most interesting and piquant situation has now been reached.

Outbreak of Small-pox in Aberdeen.

An outbreak of small-pox has occurred in Aberdeen, four of a family being attacked. The infection, it is supposed, was brought from abroad by a sailor son, who was the first to succumb. This is the first time since 1907 that there has been small-pox in Aberdeen, and then there was only one case, that of a foreign sailor, and during the last 14 years there have been in all only 11 cases in the city. Dr. Matthew Hay, medical officer of health, reported that since the passing of the Vaccination (Scotland) Act, 1907, the number of conscientious objectors to vaccination has rapidly increased in Aberdeen. In 1907 there were only 82; in 1908 there were 210; in 1909, 335; and in 1910, 373. The number of unvaccinated children has not, however, as far as Aberdeen is concerned been reduced in proportion, for the reason that the increasing number of parents who make the statutory declaration of objection is drawn only in part from the class that have been in the habit of consenting to vaccination, a considerable part coming from among those who have hitherto contrived in one way or another to avoid the vaccination of their infants.

Sanatorium Benefit in Aberdeen.

At the first meeting of the new Sanatorium Benefit Committee, held on Feb. 20th in Aberdeen, a letter was read from the Local Government Board approving the proposal to provide 53 beds for Aberdeen county in the proposed joint sanatorium to be erected by the county councils of Aberdeen, Kincardine, Elgin, and Nairn. The county of Banff had also been strongly recommended by the Board to join the joint scheme. The Board also regarded favourably the proposal to provide hospital accommodation for 33 patients. A subcommittee was appointed to confer as to joint sanatorium, &c.

Ross Memorial Hospital, Dingwall.

At the annual meeting of subscribers to the Ross Memorial Hospital, Dingwall, the chairman referred to the great loss the institution had sustained in the death of Dr. J. Adam, and moved that their regret should be recorded in the minutes. A letter was read from Dr. William Bruce resigning his post as senior physician. The chairman expressed the regret that was felt at the retirement of Dr. Bruce, who has been connected with the hospital for upwards of 40 years and had always had its interests so much at heart.

March 3rd.

PARIS.

The Control of Pharmaceutical Specialities.

A DISCUSSION has been in progress for some weeks at the Académie de Médecine in regard to a proposition by the Government for a fresh regulation of the sale of poisonous substances. Many resolutions have been passed, of which two will be of great import should they be accepted by the Government. The first relates to the sale of pharmaceutical specialities which has considerably increased of recent years. Although the sale of secret remedies is absolutely prohibited by law, proprietary pharmaceutical products violate all the regulations which demand that their exact composition shall be given on the box or bottle containing them. They are all sold under some fancy trade name, carefully registered, and the greater part of them contain on their labels nothing more than a list of the diseases for which they are alleged to be useful. Custom allows these preparations to be sold over the counter in all the pharmacies without a medical prescription. As these remedies are widely advertised in the newspapers they constitute an incitement to self-drugging without medical advice. Moreover, many of these preparations contain such powerful poisons as morphia, cocaine, aconitine, digitalin, and strophanthin in quantities that a pharmacist would not be allowed to dispense in any other form without a medical man's prescription. The Academy, therefore, has passed a resolution that in future all these pharmaceutical specialities should be compelled to bear on their labels a complete and precise statement of their several ingredients and the doses thereof. Further, none of those containing drugs on the poison schedule should be allowed to be sold or dispensed without a doctor's prescription. This resolution will doubtless meet with great opposition from the manufacturers of such products who now form a wealthy and powerful corporation, having great influence with the Ministère du Commerce. Another resolution by the Academy deals with prescriptions written in a false name and with a forged signature —a proceeding quite common among morphine and cocaine *habitués.* Some detach prescription blanks in the medical man's waiting-room while he is not looking. They have even had these prescription forms reproduced by printers. Occasionally the pharmacist to whom these prescriptions come suspects that they are irregular, and warns the medical man by the telephone. On many occasions the forgers of these false prescriptions have been prosecuted, but, strange to say, the courts have always been reluctant to regard this act as on a par with forgery in the commercial sense, which is punishable with hard labour. They have considered the punishment too severe for what appeared to them a simple piece of trickery (*supercheric*) in a sick and more or less irresponsible person. The resolution of the Academy demands a special regulation defining the offence when committed under such circumstances and ordaining a punishment therefor. In the case of unscrupulous pharmacists who dispense such prescriptions for their profit, knowing very well that they have been forged, the new regulation will inflict punishment on them also.

Collective Food Poisonings.

Some time ago there occurred at Cholet, Maine-et-Loire, a case of collective food poisoning which attacked 38 wedding guests who had eaten a wedding cake covered with icing. Ten of these died, and two further cases were noted among persons who, though they had not taken part in the feast, had tended the victims. This obviously suggests contagion. Many experiments were made by the local medical jurists, but as they proved contradictory Professor Chantemesse was sent from Paris by the Ministry to investigate, and the Academy received his report on Feb. 17th. Professor Chantemesse holds that it was a case of poisoning by a paratyphoid bacillus, which he found in the blood and in the intestines of the victims, both during life and at necropsy, and which he recovered also from fragments of the toxic icing. The bacillus is motile and belongs to the Gärtner group. Its specific toxicity is weak enough under ordinary circumstances, which accounts for the fact that a veritable epidemic did not arise in the houses where the victims were tended. The investigation showed that the icing cream had been prepared a long time in advance. The white of egg, undoubtedly infected, was poured upon the hot cream, and the whole was placed for a few moments in the oven, where an isolating crust formed on the surface of the cake. Under these conditions the culture of the bacillus in the white of egg took place in an anaërobic medium, as in an *étuve*. The cause of the accident was easily found in the blood of the cook who prepared this cream, and who, although herself in good health, doubtless had carried these bacilli in her intestines for many years, for a retrospective inquiry showed that the same person, whose occupation was to prepare banquets in the neighbourhood, had already given rise in several localities to similar accidents, which had not, however, attracted much attention because they were of lesser gravity. Professor Chantemesse thinks that this bacillus is capable of giving rise to such incidents under favourable conditions. He makes suggestions for the preparation of this sort of cream, and recommends rigorous attention to asepsis of the hands of the persons who prepare it. Moreover, Professor Chantemesse cites in his report a notable case in the reign of Louis Philippe, that of the poisoning of M. Lafarge by his wife, who was condemned to the galleys for life after her case had aroused intense excitement throughout the land. He shows that probably this was a case of miscarriage of justice, for the cake which Mme. Lafarge sent her husband, and which caused his death, seems to have been prepared in exactly the same way as that of the deadly cake of Cholet. Madame Lafarge's conviction was secured by the evidence of the famous Orfila, who demonstrated the presence of arsenic in the organs of the poisoned man by Marsh's test when nine other experts had failed.[1] His evidence was considerably criticised.

The Surgery of the Heart.

Dr. Tuffier has recently communicated to the Académie de Médecine the results of some investigations undertaken by him at the Rockefeller Institute in regard to surgery in diseases of the heart. The surgery of the heart, hitherto limited to the suture of wounds and the search for projectiles, has given some surprising, if hazardous, results. Intervention in regard to the valves has been of no avail. M. Tuffier's researches have shown that the regions of the ventricle, the base of the aorta and of the pulmonary artery allowed of incision without too great hazard; on the other hand, incision of the auricles is always formidable. The circulation of the cardiac muscle may be interrupted for two minutes. The circulation of the cavity of the heart may be suspended by temporarily effacing the two venæ cavæ for three minutes. This may be prolonged to seven minutes if care is taken to irrigate the brain by suitable injection into the carotid; the surgeon must act quickly. M. Tuffier counsels the following operative procedure. Incision in the second intercostal space at the left edge of the sternum, wide opening of the pleura, forcible separation of the ribs, longitudinal section of the pericardium, arrest of the general circulation by compressing the venæ cavæ. As to the incision of the aorta or the pulmonary artery so as to enable the operator to get at the valves, it must be preceded by the placing in the region where the incision is to be of a piece of a vein or an artery which has been kept in cold storage for 24 hours and which must first be sewn on three of its sides to the wall of the vessel. The incision is then made at the base of the artery and the valve is dealt with, and in the case of very great occlusion incised. Immediately afterwards the wound in the artery is sewn up with a fine thread, and above it is sutured, to reinforce it, the fourth side of the piece fastened there in advance. The sequelæ of this procedure, which so far has been practised only on animals, have been very simple. M. Tuffier thinks that there are cases where it might properly be tried in man.

The Internship of the Hospitals and Foreign Students.

There have existed in France during the past 15 years two kinds of diplomas in medicine—the State diploma, which can be obtained only by candidates who possess a baccalaureate and certificates from French schools and universities; and the diploma of the university, for which are accepted the diplomas and certificates of foreign universities recognised as of equivalent value to the French diploma. Practically the diploma of the university is thus the only one open to foreign students, and though the studies are the same it differs from the State diploma in that it does not confer the right to practise in France. This distinction has been made to afford easy admission to students in the French faculties without overcrowding the medical profession with foreigners (as has been the case in the past), who, not being liable for military service, have thus a three years' advantage over Frenchmen. A new rule for the interneship, which has been imposed by direction of the Assistance Publique, enacts, among other rigorous requirements, the written studies for the university diploma as well as for the interneship, and excludes the foreign students. This has produced active protest from all the physicians to the hospitals, who accuse the rule of lack of liberality, and assert that it will keep away from France students who on their return to their own countries would bring honour to French science. Moreover, a collective appeal (*démarche*) has been made to the Minister of the Interior, under the leadership of the *doyen* of the Faculty of Medicine, that the exclusion of the diploma of the university should not be upheld.

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[1] A *résumé* of the debates on the subject at the Faculty of Medicine in Paris will be found in THE LANCET of Nov. 14th, 1840.—ED. L.

March 2nd.

VIENNA.

Radium Swallowed by a Patient.

AN unpleasant incident which occurred recently in the General Hospital here caused much anxiety to the medical staff for several reasons. A woman from the country suffering from cancer of the mouth was being treated by prolonged exposure of the affected parts to the influence of radium, and for that purpose a tube containing radium was held in her mouth generally for several hours at a time. One day the tube disappeared and could not be found until the patient was examined by means of the X rays, when it was discovered in the small intestine. Apart from the fact that the valuable tube—it cost 15,000 kronen (about £600)—belonged to the hospital, there was the imminent danger of damage to the alimentary tract if the radium should act for a long time on so sensitive a structure as the intestinal mucosa. An immediate operation was therefore advised and performed, with the result that the patient now feels none the worse for her unique experience. She must have swallowed the tube in the course of a hasty meal to which she helped herself during the time of treatment, in spite of the instructions given by the medical men in whose care she was.

Munificent Donation to the Austrian Society for Cancer Research.

A generous gift of £30,000 has recently been offered to and accepted by the Austrian Society for Cancer Research. The donor, a well-known philanthropist, preferred that this large sum should be employed in practically benefiting sufferers from the disease rather than in attempts to solve scientific problems connected with the subject, and it is intended to give effect to his wishes by the establishment of a special cancer ward in the General Hospital, for which purpose another sum of over 2,000,000 kronen (about £90,000) is available already. Negotiations are at present being carried on for the purpose of enabling the society to conduct its researches in the existing wards of the Vienna hospitals until it has its own pavilion ready for occupation.

A Biological Laboratory for the University of Vienna.

There exists in our city a well-equipped biological institute which has hitherto been the private property of a few enthusiastic research workers, who have at various times published interesting reports of experiments on the variation of colours of cold-blooded animals and on symbiosis. Sometime ago Dr. Pribram and Dr. Figdor, the proprietors, presented it to the University of Vienna together with a handsome sum of money sufficient for the upkeep of the institute in perpetuity. The Vienna Academy of Science will in future control the work done there.

AUSTRALIA.

Tenth Australasian Medical Congress.

THE medical congress to be held in Auckland, N.Z., promises to be successful despite the fact that until recently shipping companies would not accept passengers on account of labour troubles. In all probability in future New Zealand will have her own organisation. The presidents of sections are:—Medicine: Dr. Sinclair Gillies, Sydney. Surgery: Mr. Hamilton Russell, Melbourne. Obstetrics: Sir D. Hardie, Brisbane. Pathology, &c.: Professor Welsh, Sydney. Ophthalmology: Dr. F. A. Pockley, Sydney. Neurology: Dr. Chisholm Ross, Sydney. Public Health: Dr. J. C. Elkington, Brisbane. Pædiatrics: Dr. P. Clubbe, Sydney. Naval and Military: Colonel C. Ryan, Melbourne. Dermatology: Dr. H. Harris, Sydney. Laryngology: Dr. R. Nolan, Sydney. A special discussion will take place on syphilis. The committee has circularised every practitioner in Australasia. In addition it has circularised all medical and social institutions, both State and private, and has information that will be embodied in a report to be laid before Congress. A review will be made of legislation in force in Australasia bearing on the subject, and the committee will bring forward its recommendations for consideration.

Neglected Children.

The annual report for Victoria states that the total number of deserted children who were a charge on the State on Dec. 31st, 1911, was 5634 and in 1912 it was 6288. The total number of deaths was 124. Of these, 88 were under 1 year old and 70 under 3 months. The medical officer states that many of these babies were in a deplorable state of ill-health and malnutrition and many were brought in a dying condition. Work under the Infant Life Protection Act was progressing satisfactorily. The system of boarding-out infants to a competent nurse, with the attendance of a medical officer always available and a trained nurse to supervise and direct, had been the means of saving many lives. There were 454 children placed in homes in this way, making 842 in all. The number of families deserted by fathers was 63, and the number of children so deserted was 149. An Act has been passed which would enable the department to reach fathers of this sort when similar legislation was adopted by the other States.

Diphtheria in Victoria.

A return of cases of diphtheria in the State of Victoria, received by the Board of Health in January, 1914, shows that 5367 cases were notified last year, compared with 5289 in 1912 and 5120 in 1911, the first year in which the greatly increased prevalence of the disease was noticeable. The spread of diphtheria during the last five years is evidenced by the fact that since 1909 the number of cases notified has increased by nearly 4000. The disease is considerably more prevalent in the country than within the metropolitan area, where there was last year a slight reduction in the number of cases compared to 1912, and a big decrease compared to the 1911 figures.

Melbourne Medical School Jubilee.

The arrangements for the celebrations are now complete. The jubilee functions will commence on Thursday, April 30th, with an inaugural ceremony in the Wilson Hall and in the evening a dinner. On Friday, May 1st, demonstrations will be given at the University and at the metropolitan hospitals, which will be continued on Saturday, May 2nd, and the celebrations will conclude with a theatre party the same evening. At a meeting of committee it was unanimously decided that a fund be established for the promotion of clinical research in the University schools. A definite resolution was worded:—

> That this meeting reaffirms the desirability of establishing a University fund for clinical research as a memorial of the jubilee of the Melbourne Medical School, and suggests to the donors that at first the interest of the fund be applied to clinical pathological research at the clinical schools.

Dr. J. W. Barrett has offered £100 per annum for five years, and Dr. R. R. Stawell, Dr. S. V. Sewell, Dr. P. S. Webster, and Mr. G. A. Syme £50 each per annum for a similar term, while numerous lesser annual sums are promised.

Health of Adelaide.

According to the city health officer's annual report the estimated city population was 42,228, which shows an increase of only 305 persons over 1912. The true death-rate was 14·42 per 1000, and the infant mortality figure is placed at 63. Twenty-three houses were condemned as unfit for habitation and 1309 notices to repair were served during the year.

Health of Brisbane.

The annual report of the Government statistician for the city of Brisbane (ten mile radius) for 1913 states that there were 5092 births and 1943 deaths, giving general rates of 35·11 and 13·40 respectively per 1000 of population. The principal causes of death were—typhoid fever, 24; measles, 35; whooping-cough, 42; diphtheria, 21; phthisis, 143; cancer, 142; apoplexy, 65. Deaths under 1 year 154. The general health of Brisbane is satisfactory, and there is nothing to show that the climate has any detrimental effect on longevity or incidence of disease.

Medical Honour.

The New Year's list of honours includes the name of Professor Harry Brookes Allen, of the Melbourne University, who was the recipient of a knighthood. Sir H. B. Allen is a graduate of Melbourne, and has been connected with the medical school for over thirty years. He was for many years professor of anatomy and pathology, but latterly resigned the chair of anatomy, which was filled by Professor R. J. A. Berry. Sir H. B. Allen has also been for many years dean of the Faculty of Medicine in the University. He has likewise filled many other positions of distinction, including President of the Eighth Australasian Medical Congress. The news of his selection for a knighthood was received with much satisfaction throughout Australia.

Jan. 27th.

THE Finsbury and Islington Medical Societies are giving a dance at Prince's Galleries, Piccadilly, W., on Wednesday, March 25th, at which all medical men and their friends will be welcome. Dancing will begin at 9.30 P.M., and tickets, price 7*s.* 6*d* (including a buffet supper), may be obtained from any member of the societies or from the honorary secretaries of the dance committee: Mr. J. N. Glaister, 96, Upper-street, Islington, N.; Mr. J. E. Jackson, 15, Huntingdon-street, Barnsbury, N.; or Mr. W. F. Roe, 12, Northampton-square, E.C.

Correspondence.

"Audi alteram partem."

THE UNIVERSITY OF LONDON: EXTERNAL STUDENTS IN THE FACULTY OF MEDICINE.

To the Editor of THE LANCET.

SIR,—The Board of the Faculty of Medicine at their meeting of Feb. 12th passed the following resolution by 7 votes to 1, I being the only member voting against it.

> That the medical degrees of the University of London should be open only to students who are students in the constituent colleges and schools of the University.

The resolution was designed to exclude the external students from the Faculty of Medicine and corroborates a similar resolution passed at a meeting of the Faculty held in 1909—a meeting when a bare quorum was present, and the vote might be regarded as a snap vote.

It will be seen that the resolution of the board out-Herods Herod, for it restricts all students of medicine to the colleges and schools of the University for the entire medical curriculum. Now the minimum time required by the regulations of the University of London for the qualifying degree is five and a half years. No other university in the world requires so long a residential qualification for any of its degrees, and it may be confidently affirmed that no other faculty in the University of London will ask for similar requirements. The avowed object of excluding the external student is to be found in the hope that by this regulation, students, now external, will be compelled to study in the schools of medicine in London, and thereby the number of students in those schools will be increased. Now 388 out of 428 members of the Faculty of Medicine are teachers in the London medical schools and incorporated colleges. An increase of students in the schools means an increase, direct or indirect, of the emoluments of the teachers. Self-interest cannot then be excluded as one of the guiding motives of the antagonism to the external student. My colleague in the representation of external students in medicine on the Senate of the University, Sir Thomas Barlow, in open Senate in fact chaffed the Deans of the Medical Schools of London for being "shopkeepers," meaning thereby that they evinced a commercial cupidity for customers—that is, students. The motive is not so pretty that one wishes to parade it naked, and so it is usually presented with some fig-leaves of clothing, in the shape of arguments more or less disguising the real reason. I propose to examine some of these arguments, and I hope to persuade the Faculty of Medicine to reverse at its next meeting the finding of the Board which, as it stands, must clearly be revised by the Faculty.

It is alleged that it is unfair to graduates of medicine who have studied in London that men who have studied elsewhere shall have the distinction of the University degree conferred upon them for passing an examination when they have not studied in the London schools. It is curious that the defence of the graduates should thus be undertaken by the Faculty, two-thirds of which, as I propose to show, are not themselves graduates of the University; whereas Convocation, which consists entirely of graduates of the University, has repeatedly opposed, and will continue to oppose, the extinction of the external students in any faculty. An analysis of the Faculty roll corrected to date, which has been obligingly furnished to me by the secretary of the Senate, reveals the following facts: (1) 337 out of a total of 428 persons—i.e., 78·7 per cent. of members of the Faculty are members of the Royal Colleges of Physicians or Surgeons; (2) 150 out of 428 persons—i.e., only 35 per cent. of the members of the Faculty—are graduates of the University.

The College qualification is in most cases taken as an adjunct to others. It is, in fact, an ornament, and, like the wearing of other ornaments, is an index to the personal preferences of the wearer. The figures at any rate show that a much larger number of persons are attracted to take the College qualifications than the University degree, and I fear it must be acknowledged that there is more affection displayed by the average man towards his University. It is therefore somewhat remarkable that the opponents of the reception of external students in the University are perfectly content to receive the external students in their own Colleges, for, of course, the examinations in the Royal Colleges are absolutely and of deliberate design external. Moreover, the universities of Oxford and Cambridge are content to examine students in the final subjects of the medical curriculum who have never attended a single lecture on those subjects in the Universities of Oxford or Cambridge. The final examinations in these Universities are therefore purely external, and these Universities are also content to give the *imprimatur* of their medical degree to students for studies which have been taken elsewhere. It has been urged in objection to this statement that the Universities of Oxford and Cambridge at least require that students for their degrees shall have passed three years at some previous time in residence at their Universities. I would point out that a separate degree, the B.A., is given for these studies, and it does not alter the truth of the statement that these Universities examine, and confer degrees, in the subjects of the final part of the curriculum without having given any instruction in these subjects to the students whom they examine. If, then, these old and illustrious foundations, the Universities of Oxford and Cambridge and the Royal Colleges in London deem it right and honourable to confer degrees upon the results of examination alone, it cannot be reasonably urged that it is not right and honourable for the University of London, which in comparison is a mere mushroom growth, to do so. Moreover, if it be unfair to give the cachet of the degree of the University of London to students who have not been taught in the London schools, it is equally unfair to deprive the students who have been so taught of the cachet of that degree, as is done in the case of students in the London schools who are taking the degrees of Oxford and Cambridge. These students are, deservedly perhaps, the special favourites of the London schools and are marked out for hospital appointments and honours; and it is singular that the Faculty who have shown themselves so anxious to create a monopoly for the London schools should be content to receive the solid emoluments derived from teaching Oxford and Cambridge students, and to be deprived of the kudos which is fairly their right for having taught these students, whose ultimate degree gives no indication whatever that they have studied in the London schools. One may adapt some famous lines to describe this curious attitude—

So careful of the fee they seem,
So careless of the honour due.

It is often stated, but the statement is erroneous, that there are at present no external students in the Faculty of Medicine. If one may use a name devised by the Royal Commissioners it may be correct to say that there are no "unattached" students in that Faculty; for, amongst other compelling facts, the regulations of the General Medical Council require that students of medicine shall pursue their studies in institutions recognised for that purpose. But these institutions are not confined to the area bounded by "a radius of 30 miles from the central office of the University" which is the statutory limit of the internal university. External students may be found within that area, but no internal students outside of it. I append a return which has been furnished to me by the officers of the University, showing the percentage of students for degrees in medicine who were classified as external in the Faculty of Medicine in the last 19 years. A consideration of this table will show that there has been no sensible diminution in the latter half of the period, when such diminution might be expected as a result of the foundation of the numerous new provincial universities which have sprung up in the last ten years. The argument, therefore, that the provincial student is sufficiently provided for and should be contented with the degree of his local university and should not presume to enter for a London degree unless he is prepared to pass five and a half years' study in the London schools seems to be unjustified by the facts, which show that the demand has remained fairly constant in the last 19 years, for which I present data. I have mentioned that the hope has been definitely expressed that some such regulation as that proposed by the Board will bring these provincial students into the London schools. I fear this hope is largely illusory, and that what will happen is that provincial students will not come to London at all, and those London teachers who are examiners

A Table Showing the Percentage of Medical Graduates Coming from Other than London Schools.

—	Total medical graduates.	M.B.	B.S.	M.S.	M.D.	Total provincial graduates.	Percentage.
1895	189	14	1	0	4	19	10·0
1896	168	9	6	0	4	19	11·3
1897	169	16	0	0	4	20	11·8
1898	159	14	7	1	3	25	15·7
1899	163	14	1	0	5	20	12·2
1900	143	15	4	0	7	26	18·1
1901	202	16	4	1	5	26	12·8
1902	169	11	5	0	3	19	11·2
1903	235	17	3	1	5	26	11·0
1904	219	12	3	1	2	18	8·2
1905	181	15	2	0	2	19	10·4
1906	192	19	1	1	4	25	13·0
1907	177	17	0	1	4	22	12·4
1908	191	20	0	2	5	27	14·1
1909	174	14	0	1	7	22	12·6
1910	167	14	1	0	11	26	15·5
1911	158	12	0	3	8	23	14·5
1912	141	11	0	1	6	18	12·7
1913	151	12	0	3	2	17	11·2

in the University will be thus deprived of the fees which they at present earn on account of these external students; the action of the Board of the Faculty is, in fact, comparable to that of the fabulous person who killed the goose that laid the golden eggs, which is the classical instance of insensate greed overreaching itself.

The Royal Commissioners reported against the admission of external students in the Medical Faculty, but at the same time created an overwhelmingly large and new class of students who will in reality be far more "external" to the University than any students have been in the past. If I read the regulations aright, it is contemplated that students, not being students of constituent colleges but of the so-called schools of the University, are to be examined and to be given degrees upon the results of examination by teachers who are to have merely nominal connexion with the University and are to be debarred even from sitting, as they at present do, upon the Faculty of Medicine. The control which the University will be able to exercise upon these examinations must be very shadowy, for it will be remembered that all that is required to constitute a school of the University is that the school shall admit one representative, selected by the Senate, to sit upon its governing body. At the present time the University accepts full responsibility for the choice of the syllabus and of the examiners and for the conduct of the examination; under the conditions indicated by the Commission such close supervision will no longer be exercised, and it may be as a natural corollary to this diminished supervision and control that the Commission desired to water down the responsibility of the University, which for the first time in its history is to give a degree to students whom its accredited professors and medical faculty have neither taught nor examined; and this may, indeed, explain the fantastic regulation which requires that the student shall add the name of his school to his degree. It is surprising that the teachers in those schools—and they must always form the large majority—which are not likely to be selected as constituent colleges, should not see the danger which they incur by destroying the external side of the University, towards which end the exclusion of the external student from the Faculty of Medicine is a long and important step. These schools will be in fact, if not in name, external schools, under the heel of a faculty entirely composed of their rival teachers in the constituent colleges.

The schools which are thus placed at such an unfair disadvantage cannot long survive these conditions, and are not expected by those who framed these conditions to have an existence which will be much prolonged after they come into force. Mr. Abraham Flexner, who is admittedly the chief begetter of the medical recommendations of the Royal Commissioners' report, leaves no doubt of his own opinions, which are very instructive reading in this connexion. He writes: "All work not carried on by teachers selected by the University or a university college of uncompromising academic character" (we are told elsewhere in the same report that University and King's Colleges alone in London satisfy this description) "amid conditions determined by the University, with ends set up by the University, is external work ...... in this essential sense the medical schools are external." "Ultimately," we are told, "the non-university medical school will become both superfluous and anomalous," but the kindly consolation is held out that "a useful, nay, a distinguished career" is still open to "the other hospitals" in the training of specialists and the cultivation of post-graduate studies (Carnegie Foundation for the Advancement of Teaching, Bulletin 6, chapter on Clinical Instruction in Great Britain).

It is naturally the desire of the Commission to withdraw the refuge which a strong external side as it now exists offers to the unprivileged schools, but it seems peculiarly fatuous that the schools which are likely to remain external in Mr. Flexner's sense should walk into the trap with open eyes. It surely becomes more than ever necessary to strengthen rather than weaken the defences of those schools against this new privileged class to which the Royal Commission gives such supreme power.

It will, I think, be agreed that the new "constituent colleges" will be the inheritors of the traditions and powers (the latter enormously magnified) of the present incorporated Colleges of the University, even though they may not actually be the same institutions. The incorporated Colleges have long had a preponderating influence on the present Academic Council and it will not be uninstructive to see how they have used that influence in the past; it will be an index to what the unprivileged schools may expect in the future, with the aggravation that the present checks on the action of the Academic Council will be largely removed. Professor Leonard Hill, in his minority report, handed in to the Royal Commission (Vol. II., p. 300), thus describes the present position: "The Senate has become divided roughly into two parties, a party which supports the policy of the University Colleges, and a loosely united opposition made up of those who wish to maintain the external side and the established examination test system, *and teachers who have united with this party to defend the interests of the non-incorporated schools*" (the italics are mine). Instances of this coöperation abound in the minutes of the Senate for the past eight years during which I have sat on that body, and I give three such in my own recollection.

1. In 1909 the Academic Council refused recognition of Dr. W. H. Willcox as a teacher of forensic medicine at St. Mary's Hospital. This refusal was challenged at the subsequent meeting of the Senate, and the Academic Council's action was reversed by the Senate, which was moved to mirth by the absurdity of refusing recognition in forensic medicine to the senior analyst of the Home Office. In the division list in the majority of 16 there voted 10 external representatives; in the minority of 12 there voted 8 members of the staffs of the incorporated Colleges. (Senate Minutes 1908–1909, No. 1950.) 2. In 1912 the Royal Dental Hospital applied for recognition as a school of the University in the Medical Faculty. The Academic Council vetoed the recognition, which was, however, carried against that Council at the subsequent meeting of the Senate by a combination of teachers at non-incorporated Colleges and external representatives. 3. An attempt was made by the Academic Council at the very last meeting of the Senate to restrict recognition in the Medical Faculty in future to teachers at schools of the University, a regulation which would exclude the great special-hospital schools, such as Brompton, Queen-square, Moorfields, and others. This attempt

was defeated by a combination of non-incorporated teachers and external representatives.

It may be objected that these are trivial details of recognition of teachers and schools. But this is practically the only power concerning the schools vested in the present Academic Council. Very much more important and far-reaching powers are given to the new Academic Council and Faculties, from which the teachers at unprivileged schools of the University are to be excluded. And yet these teachers are blind enough to endeavour to throw down what has been their chief bulwark in the past against aggression which will be tenfold more dangerous and rampant under the new constitution of the University.

I hope I have said sufficient to make the Faculty pause in its ill-considered efforts to abolish the external student in the Medical Faculty. He is very unlikely to be abolished in any other Faculty, and by no Faculty is the extinction of the external side of the University less to be welcomed than by the Medical Faculty.

I am, Sir, yours faithfully,
E. GRAHAM LITTLE, M.D. Lond., F.R.C.P. Lond.,
Member of the Senate of the University of London.
Wimpole street, W., Feb 25th, 1914.

"LORD LISTER: HIS LIFE AND WORK."

To the Editor of THE LANCET.

SIR,—Lord Lister once wrote that "next to the promulgation of new truth, the best thing, I conceive, that a man can do is the recantation of public error." The same, I submit, applies to a paper, and especially to a paper devoted to science. I regret, therefore, that in your review of my book upon Lord Lister you should refuse to follow this precept, and seek to throw blame upon me as giving a misleading description of THE LANCET'S one-time attitude. Your paper wrote of Mr. Lister in 1877 as being "like a man who in the excitement of enthusiasm raves at the false creations of his heat-oppressed brain," and sentences of a like bitterness, which I shall refrain from quoting. I submit that a more proper attitude on your part would have been to refrain from an attempted defence of such writing.

May I take this opportunity of expressing my regret that I did not mention the pioneer work of Sir Henry Howse. This omission was due to forgetfulness, but is without excuse in that as a student I witnessed this surgeon's faithful adherence to the teaching of the master.

I am, Sir, yours faithfully,
G. T. WRENCH, M.D. Lond.
Mussoorie, India, Feb. 9th, 1914.

*** Dr. Wrench's description in his book of the attitude of THE LANCET was inaccurate, and his quotation does not alter the fact.—ED. L.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

To the Editor of THE LANCET.

SIR,—I wish through the medium of your columns to express my deep regret that while I was out of town, ill, the publishers of my "Family Encyclopædia of Medicine," in an excess of zeal to make all due acknowledgment of the assistance a large number of my friends and acquaintances in the profession have given me in the way of revising and correcting special articles in the book, have advertised their names in a manner most contrary to the ethics of the profession.

It is scarcely necessary to say that both I myself and those whose assistance I have to acknowledge in my preface were quite unaware that their names were to be advertised in this fashion.

I have also taken steps to assure myself that in the future when drawing up advertisements for the "Family Encyclopædia of Medicine" the publishers will have due regard for the ethics of the medical profession. I am, Sir, yours faithfully,
HUGH H. RIDDLE.
Whiteheads grove, Chelsea, S.W., March 2nd, 1914.

To the Editor of THE LANCET.

SIR,—On the evening of the publication of the "Family Encyclopædia of Medicine" I wrote to the Amalgamated Press demanding the withdrawal of my name both from the book itself and all advertisements of it, and an apology from them for the unwarranted use of my name. The extent of my connexion with the matter is that at the personal request of Dr. Riddle I consented to look over a few pages of his MSS. and made therein a few corrections. I never at any time consented to the use of my name as an "assistant" or indeed in any way whatsoever. I am, Sir, yours faithfully,
Wimpole-street, W., March 3rd, 1914. HUGH THURSFIELD.

To the Editor of THE LANCET.

SIR,—I observe that my name appeared yesterday in the advertisement columns of the public press as having assisted in the preparation of a certain popular medical encyclopædia which is to be seen on all the railway bookstalls. I beg to inform your readers that when I promised to read the proof sheets of one section—sheets which I have not yet seen—I was under a misapprehension as to the character of the work in question. My name has been publicly advertised without my knowledge or consent. I have forbidden any further mention of it and have withdrawn my promised assistance.

I am, Sir, yours faithfully,
London Hospital, E., Feb. 27th, 1914. PAUL FILDES.

To the Editor of THE LANCET.

SIR,—On calling on a patient to-day who had had considerable experience in the advertisement of theatrical pieces she said she was lost in envy at the wide publicity secured for the professional ability of a large number of members of my profession by one of the most notable advertisements of the general public, had ever she, as a member of the general public, had ever seen. She added that she had always understood that reputable members of the medical profession avoided such a public record of their names, appointments, and qualifications. With this, she handed me a largely circulated daily paper containing the advertisement of a Family Encyclopædia of Medicine, with an imposing list in bold type of more than 30 physicians and surgeons, among whom are to be seen the name of two baronets, nine knights of one or another variety, and a goodly crop of physicians and surgeons the majority of whom are Fellows of the Colleges of Physicians and Surgeons. I enclose the advertisement for your inspection. Then follows the ingenuous remark that "It is a pleasing sign of the times that so many leaders of the medical profession should have coöperated so whole-heartedly in this notable effort to enlighten the lay public regarding the treatment and prevention of disease." An additional allurement is held forth in the fact that the work, which is published fortnightly and may be had for *7d.*, contains more than 2000 prescriptions!

I do not suggest that the more or less distinguished contributors to this philanthropic (!) publication are directly responsible for this blatant advertisement of the departments of medicine in which they practise, but I venture to think that it will be the opinion of most of the profession that the spirit, if not the letter, of the prohibition against such advertisement is infringed by their names appearing, however little on their own initiative, in this broadcast trade circular.

From time to time we find some struggling doctor accused of conduct infamous in a professional sense because he has "placed his goods in the window" in some much more obscure manner, and I fail to see that the conduct is any less infamous professionally because the goods of these more or less eminent "specialists" are placed in the window for them by someone else. Personally, I think the attention of the Censors of the Colleges should be called to this particular advertisement, and hope, Sir, that your inserting this letter in THE LANCET may have that effect. I enclose my card, and am, Sir, Yours faithfully,

Feb. 26th, 1914. F.R.C.P.

*** A meeting of the medical men concerned has been summoned, we are informed, when their course will be decided upon.—ED. L.

FRACTURE OF THE EXTERNAL MALLEOLUS.

To the Editor of THE LANCET.

SIR,—Dr. B. Whitchurch Howell asks in THE LANCET of Feb. 28th three questions in regard to the removal of the external malleolus when broken. They are easily answered:—

1. At present I only remove the malleolar fragment when it is displaced.
2. There is no sign of varus or valgus in the patients who have had the malleolus excised.
3. There is no evidence of displacement of the peronei tendons. The tendon sheaths keep them in position.

I am, Sir, yours faithfully,

JOHN BLAND-SUTTON.

Brook-street, Grosvenor-square, W., Feb. 28th, 1914.

RADIOGRAPHY OF THE SELLA TURCICA.

To the Editor of THE LANCET.

SIR,—At the last meeting of the Electro-Therapeutical Section of the Royal Society of Medicine consideration for the crowded state of the agenda list made me refrain from offering the following suggestion for centring the sella in the directly transverse rays from the tube. It will, I think, be more certain, as well as easier, than Mr. S. Gilbert Scott's shot, or Dr. Finzi's sixpences, while satisfying Dr. Parkes Weber's requirements as to giving visible evidence on the plate itself that the centring has been properly done.

Take two metal curtain rings of about 1½ inches in diameter, and to each attach two small strips of adhesive plaster. Fix them by these strips in the proper position with reference to each auditory meatus, and then arrange head and tube so that the screen shows the rings concentrically placed one apparently within the other. The central rays will then be truly transverse and unobstructed, and the shadow of the rings on the plate will prove the fact. I am, Sir, yours faithfully,

West Chapel-street, W., Feb. 24th, 1914. W. HAMPSON.

A COMPARISON OF THE ACTIONS OF CHLOROFORM AND ETHER ON THE BLOOD PRESSURE.

To the Editor of THE LANCET.

SIR,—I note in your issue of Feb. 28th a paper by Dr. H. P. Fairlie with this title in which he quotes my conclusions published in THE LANCET in 1908. He mentions that I pointed out that no form of stimulant should be given previous to or during the course of an operation. He also quotes me as stating that ether should be given as an anæsthetic. He then states that to his mind these statements are quite contradictory, for while disapproving of ether as a stimulant I recommend it as an anæsthetic "on account of the fact that it is a stimulant." Now, in my paper, I laid careful stress upon the fact that ether should not be given *because* it is a stimulant, but *in spite* of it as it is less toxic than chloroform. My actual words were: "The absence of shock is not in these cases due to any stimulating effect of the drug [ether], for, as has been pointed out, when shock is present the centres fail to react to any form of stimulant. In fact, stimulants only further exhaust the centres and aggravate the condition." I am, Sir, yours faithfully,

ALBERT J. WALTON.

Weymouth-street, W., Feb. 28th, 1914.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—Dr. Thiele and Dr. Embleton in a paper in THE LANCET of Feb. 21st state their conclusion that "the use of cholesterin ...... in antigens for the Wassermann reaction is not only unnecessary, but introduces a very serious source of error." These authors have allowed themselves to be led into a very rash and totally erroneous generalisation. The introduction of cholesterin into syphilitic antigens was originally advocated in a paper by myself along with Dr. Cruickshank and Dr. McKenzie.[1] The statement of Dr. Thiele and Dr. Embleton as applied to our antigen, employed in the fashion which we recommended, is absolutely wrong. We showed that the introduction of cholesterin into an alcoholic solution of ox liver "lecithin" greatly enhanced the antigenic power of the latter—i.e., the property of deviating complement in the presence of syphilitic serum, but had practically no effect on the inhibitory action of the antigen either by itself or in the presence of normal serum. In addition to providing a means of increasing the antigenic power of certain lipoid solutions by means of cholesterin, we were also enabled in this way to establish a new criterion for the detection of syphilitic sera, which has proved valuable in confirming weak positive reactions. The original estimate of our method has been substantiated by nearly a dozen workers in the examination of over 3000 cases here and by other observers elsewhere. The value of the addition of cholesterin to antigens has also been shown by the procedure being adopted by such experienced workers as Sachs, McIntosh and Fildes, and Walker and Swift. With regard to the other observations of Dr. Thiele and Dr. Embleton on the effect of autolysis, the action of cholesterin by itself, &c., it may be remarked that the greater part of these results had been previously published by others, and a full account of our own work on these points and also of that done elsewhere is recorded in Browning and McKenzie's "Recent Advances in the Diagnosis and Treatment of Syphilis." I hope to have an opportunity of dealing more fully with the questions raised by Dr. Thiele and Dr. Embleton in an early issue of your journal.

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[1] Journal of Pathology and Bacteriology, vol. xiv., 1910, p. 484.

I am, Sir, yours faithfully,
CARL H. BROWNING.

Laboratory of Clinical Pathology of the University and Western Infirmary, Glasgow, March 3rd, 1914.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 28th Dr. J. McIntosh and Dr. P. Fildes have criticised our paper on the "Wassermann Reaction" published in THE LANCET of Feb. 21st, 1914.

Dr. McIntosh and Dr. Fildes have entirely missed the purport of our paper and so have expressed their absolute dissent from our conclusions on a subject which they themselves have never investigated. We fully agree that the addition of cholesterin greatly increases the apparent antigenic value of an antigen and are fully cognisant of the work of Browning and Mackenzie, Sachs, and themselves. We maintain, however, that the action of cholesterin is not specific. We have shown[1] that it enhances the pre-existing anticomplementary property of some non-syphilitic sera just as it enhances the anticomplementary power which develops when a syphilitic serum is exposed to an antigen. This is the point that Dr. McIntosh and Dr. Fildes have failed to deal with in their papers. We do not deny that the use of cholesterin with an alcoholic heart antigen, or a weak lecithin antigen, greatly increases the sharpness of the reading, and has shown up cases which would otherwise have been missed, but this addition is only necessary when the true antigenic power of the antigen is weak—in fact, the addition of cholesterin is the confession of a weak antigen.

By the method of Dr. McIntosh and Dr. Fildes the true antigenic value of the antigen is never ascertained.[2] It is taken for granted. It does not necessarily follow that the different samples of antigens obtained by their method are of constant value; in fact, it has been shown by Noguchi and ourselves that even with a uniform technique the antigenic value of the extracts from the same type of organ is not constant. By our method[3] we can always rely on getting an antigen which is so powerfully antigenic that it requires no aid from cholesterin to show the complement fixation that has occurred; it is not anticomplementary, so that large amounts can be used, and it is not hæmolytic.

With regard to our statement that the Wassermann reaction as ordinarily performed is apt to give erroneous results with corpse sera, &c., we should just like to draw attention to the latest communication appearing in connexion with this by Boas and Eiken.[4] These observers examined 540 corpse sera, and using 200 c.mm. of the sera they obtained so many positive results that they regarded the test as useless; using 100 c.mm. of serum they obtained negative results in 17 per cent. of cases where there was active untreated syphilis.

Lubarsch[5] out of 109 corpse sera which gave a positive Wassermann reaction had 41 which were from non-syphilitic cases, these latter forming 7·3 per cent. of the total number of sera examined. M. Rabinowitch,[6] examining 3000 normal sera found that when stored all would give a positive Wassermann reaction, thus showing that all sera when they become anticomplementary can give a positive reaction with an anticomplementary antigen. Fildes[7] also reported 15 per cent. of positive reactions in corpse sera.

In conclusion, we have brought forward a powerful antigenic substance, so powerful that three-millionths of a gramme will give complete fixation in the Wassermann reaction. This antigen is easily obtainable and quite stable, and has no interfering anticomplementary or hæmolytic factors. We hold that it is absolutely unnecessary to use cholesterin antigens when such a powerful non-anticomplementary antigen can be obtained. These cholesterin antigens may give rise to a source of error in that occasionally a normal person may be diagnosed as syphilitic.

We are, Sir, yours faithfully,
FRANCIS H. THIELE.
DENNIS EMBLETON.

Bacteriological Laboratory, University College Hospital Medical School, London, March 2nd, 1914.

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[1] Zeitschrift für Immunitäts-Forschung, vol. xvi., Heft 4, p. 430 &c., 1913.

[2] Zeitschrift für Chemo-Therapy, 1912, vol 1., p. 79.

[3] THE LANCET, Feb 21st, 1914, p. 527.

[4] Boas and Eiken: Hospitalstidende, No. 32, 1913.

[5] [illegible]

[6] [illegible]

ASSOCIATION OF ASSISTANT MEDICAL OFFICERS OF ASYLUMS, ENGLAND AND WALES.

To the Editor of THE LANCET.

SIR,—I shall be much obliged if you can find space in your next issue to publish the fact that the first annual general meeting of the above association will be held at the Westminster Palace Hotel, London, on Saturday, March 14th, 1914, at 3.15 P.M.

I am, Sir, yours faithfully,
F. J. STUART,
Honorary Secretary.

Berry Wood, Northampton, March 1st, 1914.

THE TREATMENT OF COLI-CYSTITIS BY FLUID ELECTROLYSIS.

To the Editor of THE LANCET.

SIR,—Since the appearance of my paper in THE LANCET of Feb. 14th I have been informed of the work of Professor E. W. Ainley Walker and Dr. Murray[1] on the lengthening and other characters induced in typhoid and colon bacilli by their cultivation in media containing aniline dyes. There is also another work, by G. Dreyer, S. G. Scott, and E. W. A. Walker, dealing with an induced change to Gram's stain of various bacteria after treating them with different chemical substances.[2] These researches are of great interest and value. They would have been included in my paper if the means of altering bacterial characters had been its subject. Nevertheless, priority of observation that such new characters can be induced in bacteria is on similar lines, rather than in the manner suggested by Mr. Parker.

Visions, unfortunately, do stimulate public opinion, and public opinion can give rise to Governments that may be good or bad; so that a time may come when statesmen of the type of Keir Hardie and Will Thorne may rule our political system; then, in a Socialist state, medicine, together with every other art and science, will have to submit to the reign of Collectivism. Many of us, however, congratulate ourselves that we shall probably not live to witness the experiment.

I am, Sir, yours faithfully,

Hackney-road, N.E., March 1st, 1914. MAJOR GREENWOOD.

WHAT IS CHAULMOOGRA OIL?

To the Editor of THE LANCET.

SIR,—In view of the renewed interest which is being taken in chaulmoogra oil and "antileprol" (an extra refined form of chaulmoogra oil) as a curative or alleviative in leprosy, it is important to draw the attention of the medical profession, superintendents of leper asylums, governments, and the drug trade to the fact that nearly all the so-called "chaulmoogra oil" upon the European market is spurious or adulterated. The true chaulmoogra oil is expressed from the seeds of Taraktogenos kurzii. In 1912 the crop of Taraktogenos kurzii seeds failed almost completely. Some firms of chemists, being unable to forego the temptation of high profits, began in 1913 to ship the oil obtained from seeds of Hydnocarpus wightiana as "pure chaulmoogra oil."

Nearly all the large European druggists were deceived; there is practically no genuine chaulmoogra oil at present on the European market, nor has there been for the past 18 months. Very large quantities of spurious oil have been imported and retailed, and many leading firms have been victimised. The substitute, Hydnocarpus wightiana, is similar in composition and appearance. It, however, has little therapeutical value in leprosy, and its cost in India is about one-third that of the true oil (Taraktogenos kurzii).

I have drawn the attention of Sir Malcolm Morris, who is now in India, to the facts, and also that of the Colonial Office. I have forwarded specimens of the true and false oils to Mr. Martindale, Mr. Parry, and Mr. Squire, and to most of the firms concerned. That some of these firms do not recognise the gravity of the fraud upon a particularly hopeless people like lepers is obvious from the letters which I have received. One Indian firm, while admitting that their oil is probably from the Hydnocarpus, announce their intention of continuing to sell it as "guaranteed pure."

The Taraktogenos kurzii tree occurs only in the Chittagong Hill tracts, Burma, and parts of Assam. The Governments of Bengal, Burma, and Assam have leased out the *sole* right of collection of these seeds in the forests concerned to a company whose representatives in London are Messrs. Bulloch Brothers and Co., Limited, of 13, Fenchurch-avenue, E.C. Leper asylums and Governments and all charitable institutions can obtain from them pure cold-drawn chaulmoogra oil (expressed from seeds of Taraktogenos kurzii) at a very cheap rate.

I am, Sir, yours faithfully,

ERNEST E. FRANCIS, M.R.C.S. Eng., L.S.A. Lond.,
Chief Medical Officer, Assam-Bengal Railway.

⁂ Mr. Francis encloses copies of the correspondence which has ensued upon his making representations to various firms of chemists and druggists.—ED. L.

THE NATIONAL INSURANCE ACT.

THE DEPARTMENTAL COMMITTEE ON ALLEGED EXCESSIVE SICKNESS CLAIMS.

THE Departmental Committee on Alleged Excessive Sickness Claims having asked that evidence might be submitted to it on behalf of the London Insurance Committee, that body on Feb. 26th appointed its chairman (Mr. J. A. Dawes, M.P.) to give evidence, and approved a draft statement of its views. In regard to the work of the medical referees, the committee decided to express the opinion that it was not necessary for insured persons to have the right of appeal to the referees against the opinion of their doctor, because the case of an insured person who had been refused a certificate by his own doctor was so dubious as not to justify the right of access to a medical referee. In the case of the medical practitioner, however, the committee thought there should be such right of access. Although no formal representations had been made on this point by bodies representing the profession, a large number of communications had been received from individual practitioners asking for the right of access to the referee. It was a matter for consideration whether the action of Approved Societies in referring cases to the medical referee without consulting the panel practitioner did not tend to create resentment on the part of the practitioner. The question of the incapacity of an insured person in the case of an Approved Society appeared to take the form of whether a certificate furnished by a medical practitioner should be accepted without question. It had not always been easy to appreciate the reason given by an Approved Society for doubting the accuracy of a medical certificate. In a large number of cases the reason advanced had been either "prolonged duration of illness" or "question of total incapacity." If the practitioner had been approached first he would doubtless have supported his certificate with further information. The desirability of the Approved Society first consulting the panel practitioner was particularly apparent in cases where the only reason for the society referring the case to the referee had been that a lay "sick visitor" had doubted the practitioner's certificate. A *bonâ fide* reason should be required of an Approved Society for referring an insured person to the referee. The committee further expressed the opinion that the appointment of referees should continue to be made by the Insurance Committee in order that records might be classified and greater uniformity be secured in the issue and acceptance of certificates. The committee decided to place before the Departmental Committee a number of statistics from which we take the following items; the figures relate to the period ended Jan. 11th, 1914:—

The number of doctors on the panel	1475
The number of doctors in the area in general industrial practice who are not on the panel	500
The greatest number of insured persons on any individual doctor's list (the doctor has since taken a partner)	5177
The average number of insured persons on the lists of all the doctors	909
The number of doctors (including practitioners in partnership) who had on their list—	
(*a*) Less than 500 insured persons	500
(*b*) Between 500 and 1000	261
(*c*) Between 1000 and 1500...	189
(*d*) Between 1500 and 2000	151
(*e*) Between 2000 and 2500	84
(*f*) Between 2500 and 3000	60
(*g*) Over 3000	48

The number of insured persons—	
(a) Who failed to select a method of treatment (approximately)	228,000
(b) Who elected to receive treatment through an approved institution	3233
(c) Who were allowed to make their own arrangements ...	1549
The number of cases of change of doctor by consent during the year (approximately)	7480
The number of cases of change of doctor at the end of the year	12,439

Some discussion took place as to the accuracy of the estimate of 500 as the number of doctors in general industrial practice who were not on the panel, and it was generally agreed that 1000 would be a more accurate figure.

HOSPITALS AND THE NATIONAL INSURANCE ACT.

At this time of the year, when throughout the country balance-sheets for 1913 and estimates of liability for 1914 are coming under consideration, it is natural to find comment upon the effect which the Act is believed to have upon hospital finance. The past financial position is considered and the future surmised. At the recent annual dinner of the Hospital Saturday Fund reference to the effect of the Act was made by the Chairman, by Sir Savile Crossley, and by Sir Reginald Acland in speeches which attributed a falling off of income, in part at least, to the operation of the Act, though the speakers were able to maintain a hopeful attitude with regard to the future. At the annual meeting of the qualified contributors to the Glasgow Royal Infirmary Lord Provost Stevenson, who presided and moved the adoption of the report, referred to the effect of the Act in reducing the number of out-patients, but stated that the number of serious cases treated in the infirmary was being more than maintained. The number of out-patients had been reduced by about one-third, which corresponded to the estimated number being treated under the Act: and as the honorary staff of the hospital, who were treating the remainder, had not been diminished in number, the patients must be receiving fuller attention. He commented upon the unfairness of medical men on the panel sending to the infirmary patients whom they should treat themselves, but expressed no anxiety as to the financial position of the infirmary. which appeared to be satisfactory. At Bootle, at the annual meeting of subscribers to the Borough Hospital, reference was made to the difficulty experienced in educating insured persons to have recourse to medical men on the panel instead of going to the hospital as they were accustomed to do. The hospital had suffered considerable loss of income, which was attributed, in part at least, to the stoppage of weekly collections among working men now called upon to pay their quota under the Insurance Act. The committee desired to refute the idea expressed by some that the need for the hospital was lessened by the Insurance Act. At the annual meeting of the subscribers to the Ayr County Hospital, the report submitted showed that the number of patients treated at the dispensary was 383, a decrease of 683. The number of operations performed in the hospital was 936, as against 604 in 1912, a very large increase which was ascribed to the effect of the Insurance Act, as was also a decrease of £142 in the income derived from subscriptions. It may also be noted that under the recently proved will of Mr. John Shiel, of Newcastle-on-Tyne, chairman of two colliery companies and director of a coal and coke company, a legacy of £1000 had been left to the Harrogate Convalescent Home connected with the Durham County Hospital. This bequest was revoked "in view of the provisions under the Insurance Bill and sanatoria provided thereby." It is to be hoped that no testators will allow the benevolent disposition of their property to be affected by any mistaken idea that the utility of hospitals has been put an end to or their needs diminished by the Act, which tends more and more to have an exactly contrary effect.

THE MEDICAL RESEARCH COMMITTEE.

Regulations were issued on Wednesday last for the guidance of the Medical Research Committee, the constitution of which, under Lord Moulton of Bank as chairman, will be found in an article in THE LANCET of Sept. 27th, 1913, p. 970. In the same article the *personnel* is given of the Advisory Council, over which Lord Moulton also presides. The new Regulations provide that the committee should from time to time prepare schemes for research for submission to the Chairman of the National Health Insurance Joint Committee, who will take the advice thereon of the Advisory Council.

LOCAL MEDICAL COMMITTEE FOR LONDON.

The Metropolitan Counties Branch of the British Medical Association has undertaken the duty of arranging for the election of the long-deferred statutory Local Medical Committee for the County of London. The scheme of election is briefly as follows. The committee will consist of 60 members with representation for medical men on the panel, for medical men not on the panel, for members of hospital staffs, for the public health and Poor-law medical services, and for medical women. The representation for medical men on and off the panel has been calculated from the estimated number of practitioners. The election will be carried out by postal vote. One panel representative will be elected for each of the 29 boroughs of London, while with the exception of Marylebone, which has a representative to itself, the boroughs will be arranged in groups for the election of 22 non-panel representatives. Nominations and votes to be valid must come from those actually residing in the particular borough or group of boroughs, but there will be no restriction as to the residence of candidates nominated. The six representatives of the medical staffs of hospitals will be elected by the members of the permanent staffs of hospitals resident in London; while one medical officer of health, one Poor-law medical officer, and one medical woman will be nominated and elected respectively by the metropolitan branch of the Society of Medical Officers of Health, the Poor-law Medical Officers' Association, and the Association of Registered Medical Women.

LONDON MEDICAL BENEFIT SUBCOMMITTEE.

This committee recommends with regard to the allocation of funds arising in respect of insured persons not assigned to or accepted by medical men on the panel, that practitioners having more than 2000 patients on their lists shall not be credited with further fees in respect of the number of patients on their lists above 2000, but that the fees to be divided shall be apportioned among practitioners on the panel in proportion to the numbers not exceeding 2000 on their lists. Medical practitioners who have modified the conditions of their agreements so as formally to limit their lists given by Mr. WEDGWOOD BENN. Without this explanation the reported proceedings of Parliament might give rise to some confusion as to the identity of the Ministers who are undertaking the Parliamentary representation of the National Insurance Commissioners.

Medical Attendance on Insured Persons.

A return which Mr. WORTHINGTON EVANS has asked for in regard to medical attendance under the National Insurance Act has been refused by the Government. What the honourable Member asked was particulars as to the number of insured persons who at the end of the first year after the National Insurance Act came into operation had chosen panel doctors, the number who had chosen an approved institution, the number who had been assigned by the several Insurance Committees to panel doctors or to institutions, the number who had been allowed to make their own arrangements for medical treatment with doctors not on the panel, and the number who had neither chosen doctors nor institutions nor had been assigned to doctors nor had made their own arrangements. Mr. WEDGWOOD BENN, in declining to grant the return, expresses the opinion that it would not be of a public utility sufficient to justify the time and labour necessary for its compilation and for ensuring its accuracy.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 25TH.

Deposit Contributors and Medical Benefit.

Replying to Mr. MACCALLUM SCOTT, Mr. WEDGWOOD BENN said: A deposit contributor is only entitled to such benefits as can be provided from the amount standing to his credit in the deposit contributor's fund (including the moneys provided by Parliament). It follows, therefore, that when a deposit contributor has passed the age of 70, and further contributions are not payable in respect of him, he will not be entitled to medical benefit after the sum standing to his credit has been exhausted.

Complaints by Gloucester Panel Practitioners.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether complaints had been made by Gloucester panel doctors that certain Approved Societies had failed to supply forms for medical certificates and had ignored requests for such forms; whether insured persons' benefits were thereby in danger of disturbance, refusal, or delay; and what the Government proposed to do in the matter.—Mr. WEDGWOOD BENN replied: The matter referred to had not previously been brought to the notice of my right honourable friend, but he is in communication with the Insurance Committee and the Approved Societies concerned.

Medical Certificates and Sick Pay.

Mr. G. LOCKER-LAMPSON asked the President of the Local Government Board whether his attention had been called to the case of a member of an Approved Society who entered the Marylebone Poor-law infirmary on Jan. 12th last, remaining there three weeks, and who was unable to get sick pay from his Approved Society because the society would pay only on the production of the doctor's certificate and the infirmary doctor and authorities refused to give one; and whether any pressure could be brought to bear either upon the Approved Society or the infirmary officials so that this man might obtain his rights.—Mr. HERBERT SAMUEL answered: My attention had not been previously drawn to this case. It is the duty of the medical officer of the infirmary under the Local Government Board's regulations to give a certificate to the person on whom he is attending of the sickness of such person or the cause of his attendance on him, and I am calling the attention of the guardians to this requirement.

Selection of Medical Men.

Mr. WEDGWOOD BENN informed Mr. WORTHINGTON-EVANS that information was not available how many insured persons had not selected a medical man for the purpose of the National Insurance Acts at the end of the first insurance year, or in how many cases doctors had been assigned to insured persons by Insurance Committees before that date. The information could not be obtained without a special return from all Insurance Committees in Great Britain. If the honourable Member would put down a motion for a return the matter would be considered.

Accommodation for Tuberculous Persons.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether his attention had been called to the conference of Poor-law authorities on Feb. 18th last, where it was stated that such authorities had spare accommodation for tuberculous persons; and whether, in view of the fact that there was still a shortage of accommodation for insured tuberculous persons which was causing delay in their treatment, he would do his best to effect a temporary arrangement similar to that in connexion with the Metropolitan Asylums Board, so that such spare accommodation might be utilised for them.—Mr. WEDGWOOD BENN said in reply: It is not open to Insurance Committees to [illegible] the treatment of insured persons by [illegible] The case of the Metropolitan Asylums Board is governed, as the honourable Member knows, by special provisions in the 1913 Act.

Reorganisation of London University.

Sir PHILIP MAGNUS asked the Prime Minister whether the Government intended to introduce this session a Bill for the reorganisation of the University of London, in general accordance with the recommendations of the Royal Commission on University Education in London, and, if so, whether that Bill would be presented as a separate measure, or as part of the measure for the development of a national system of education, to which reference was made in the gracious speech from the Throne.—Mr. ASQUITH answered: Pending the report of the Departmental Committee on the University of London, I am not in a position to announce the intentions of the Government. It will probably be convenient and desirable to deal with this question in a separate measure.

Declarations under the Vaccination Act.

Mr. W. HARVEY asked the Home Secretary whether his attention had been called to the fact that in some parts of the country conscientious objectors under the Vaccination Act, 1907, experienced great difficulty in finding a justice of the peace who was willing to witness their declaration; and whether he was prepared either to take steps to compel all magistrates to sign exemption orders or else provide additional facilities for those who desired to avail themselves of the exemption afforded by the Act.—Mr. MCKENNA replied: One or two complaints of this sort have been received, but I have no reason to think that the difficulty is of frequent occurrence. If my honourable friend will let me know of any particular cases where magistrates have refused to take the declarations I will make inquiry, but he should understand that I have no authority to compel them to do so, and I fear I could not undertake to propose legislation on the subject at the present time.

Medical Men and the National Insurance Act.

During the course of the debate on the motion in favour of an inquiry into the working of the National Insurance Act, Mr. LLOYD GEORGE expressed his opposition to the establishment of a voluntary system in place of the present compulsory system. In the course of his speech the right honourable gentleman said that one honourable Member complained that in 18 months all the sanatoria had not been erected. Another honourable gentleman said that sites were actually being bought. How could sanatoria be built without sites? A sum of £1,600,000 had been set aside for the purpose.

An honourable Member: Has it been spent?

Mr. LLOYD GEORGE replied that it had not been spent because all these places could not be built in 18 months. The £1,600,000 was an offer made by the State to meet local expenditure. It was an offer not of £1 for £1. 60 per cent. of the expenditure was offered as a grant from the Exchequer. Wherever the local authority had come forward—and he was glad to say that these authorities had come forward in his part of the country—and offered to build, the State had been ready to provide 60 per cent. of the total expenditure. But it was impossible to purchase sites and build sanatoria in 18 months. Speaking of the difficulties which had been experienced in bringing the Act into operation the right honourable gentleman said that there was some difficulty with the doctors at first. The doctors came in for the moment somewhat sulkily in some parts of the country, but the testimony which he had received from every part now was that the doctors were working, not merely freely, but heartily and well. There might be one or two cases where that was not so. From some societies in different parts of the country he had complaints, but in the main the doctors were working with a will. To rush to conclusions after the first year of administration, when the machinery had not been properly organised and systematised, would be folly on the part of the Government, but to come to the conclusion that they should make alterations which would be permanent, on the purely temporary basis of the experience which they had had, was a policy which no Government could adopt without possibly incurring expenditure of a very extravagant character.

THURSDAY, FEB. 26TH.

No State Medical Service.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether a Government committee was at present considering the subject of a State Medical Service, and was actually preparing plans for such a scheme.—Mr. WEDGWOOD BENN replied: No, sir.

Domiciliary Treatment of Tuberculous Persons.

Mr. G. LOCKER-LAMPSON asked the Secretary to the Treasury whether his attention had now been drawn to the tatement in the report of a subcommittee of the West Ham

Insurance Committee that out of 95 tuberculous persons receiving domiciliary treatment in their area at the end of 1913, no less than 37 were sleeping in the same rooms as other persons; and what the Government proposed to do in the matter.—Mr. WEDGWOOD BENN replied: It is the duty of the committee to arrange for the provision of treatment [illegible] recovery, but they have no means of enforcing those instructions in such cases as those referred to in the question except by making their observance a condition of the receipt of treatment, which would in many cases deprive the insured person for causes beyond his control of all the benefit of treatment.

The Drug Fund in Manchester.

Mr. G. LOCKER-LAMPSON asked the Prime Minister whether, in view of the anxiety felt by panel chemists in Manchester owing to the deficiency in the drug fund in that district under the National Insurance Act and the non-payment of a large portion of their accounts for 1913, he would give a pledge on behalf of the Government that they would all be paid in full.—Mr. ASQUITH answered: No question arises for such an undertaking as that asked for in the question. The amount of the remuneration payable to the Manchester panel chemists is governed by the contracts into which they have entered with the Manchester Insurance Committee, and they will receive the whole of the sums due to them under these contracts.

Mr. LOCKER-LAMPSON: Is it not a fact that these chemists are not in the least responsible for the nature of the prescriptions ordered by the doctors?—Mr. ASQUITH: I would ask the honourable Member to put that question down on the paper.

Sir W. P. BYLES: Is the honourable gentleman (Mr. Wedgwood [illegible] the Manchester and Salford [illegible] ally £1600—[Mr. LOCKER-LA[illegible] oney which they earned during last year? What I want to know is whether they have to lose that money?—Mr. WEDGWOOD BENN: My right honourable friend is aware that a joint committee of doctors and chemists are going through the accounts.

The Vaccination Laws.

Mr. BRIDGEMAN asked the President of the Local Government Board whether he would state how many resolutions he had received from Poor-law unions stating that the present system wa[illegible] laws and asking for [illegible] science clause; and [illegible] to meet their wish [illegible] answer to the first [illegible] the second part of [illegible] Member to my re[illegible] occasion.

Criminal Lunatics.

Mr. TOUCHE asked the Home Secretary whether persons confined in criminal lunatic asylums were allowed to see [illegible] ote in [illegible] legal [illegible] er the [illegible] and a [illegible] d not [illegible] The [illegible] tions) [illegible] times [illegible] opped [illegible] etion [illegible] rge of lunatics to decide when [illegible] gulations could be laid down [illegible] which render such a course [illegible] require all letters so stopped [illegible] l supervision of the asylum at [illegible]

MONDAY, MARCH 2ND.

The Prevention of Shuttle-kissing.

Replying to Major STANLEY, Mr. MCKENNA (the Home Secretary) said: The inspectors of factories have for some [illegible] last conference in October a [illegible] the three parties was appointe[illegible] cotton mills of various device[illegible] ceeding, and I am not in a position to make any definite statement at present, but I have good hope of their leading to a satisfactory result.

The Solvency of Approved Societies.

Mr. BONAR LAW asked the Chancellor of the Exchequer whether or not it was the case that on the evidence now available the chief actuary had reason to consider that a large number of Approved Societies would on valuation be unable [illegible] in respect of men's societies generally has been well within the actuarial expectations. The experience in respect of women, however, indicates some excessive sickness benefit expenditure, and this excess arises particularly from the claims in respect of married women. There are also considerations affecting some societies having an undue proportion of members in specially unhealthy trades. A strong Departmental Committee is now examining the whole subject, and I hope that its report and evidence will be helpful in the consideration of how best to meet the particular difficulties.

TUESDAY, MARCH 3RD.

Nurses' Registration Bill.

Dr. CHAPPLE, in moving for leave to introduce a Bill "to regulate the qualifications of trained nurses and to provide for their registration," said that the Bill proposed without compulsion and without cost to the State to set up a nursing council. That council would be charged as part of its duty to prescribe a curriculum and also a minimum standard of training for nurses. It also provided for certificates being granted to those nurses who passed the examination prescribed by the Council. It was [illegible] t. Any woman would [illegible] she practised it now. [illegible] woman would not be [illegible] had been trained at [illegible] e. The matter would [illegible] tioners. [illegible] was quite [illegible] circularise [illegible] nurses. [illegible] imposed u[illegible] of untrain[illegible] had been [illegible] The head [illegible] Hospital. [illegible] which op[illegible] hospital which exploited nurses for its own financial advantage. It gave certificates to nurses at the end of two years, whereas it was recognised by other hospitals that three years was a necessary curriculum.

Mr. BOOTH said that the references to the London Hospital alone would entitle honourable Members by way of protest to vote against the motion. It was doing a great work amongst the poor in the East End. He also pointed out that the standard for registration was not agreed.

By 311 votes to 82 leave was granted to bring in the Bill.

Dr. CHAPPLE formally introduced the Bill, which was read a first time.

WEDNESDAY, MARCH 4TH.

Manchester Panel Chemists and Prescriptions.

Mr. GODFREY LOCKER-LAMPSON asked the Secretary to the Treasury whether the Manchester panel chemists had any control over the nature of the prescriptions ordered by the doctors; and, if not, why they should not be entitled to full payment fo[illegible] up.—Mr. WEDGWOOD BENN [illegible] first part of the question is [illegible] Regulations it is open to the [illegible] y area to obtain a scrutiny of [illegible] by them, with a view to sure [illegible] s responsible with the cost of those shown to be excessive or extravagant.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, London.

Industries for the Feeble-Minded and Imbecile. A Handbook for Teachers. By A. Bickmore. Price 2s. net.

CAMBRIDGE UNIVERSITY PRESS, London and Cambridge.

The Interregnum. Twelve Essays on Religious Doubt. By R. A. P. Hill, B.A., M.D. Price 4s. 6d. net.

FISCHER, GUSTAV, Jena.

Lehrbuch der Orthopædie. Bearbeitet von Dr. von Aberle, Dr. Bade, Privat-dozent Dr. von Baeyer, Prof. Dr. Biesalski, [illegible] Lange, Prof. Dr. Ludloff, Dr. [illegible] Dr. L. Rosenfeld, Prof. Dr. Fritz Lange. Mit 586 zum [illegible] Price M. 18, geb. M. 19

Handbuch der *Gesamten Therapie.* In sieben Bänden. Herausgegeben von Prof. Dr. F. Penzoldt, in Erlangen, und Prof. Dr. R. Stintzing, in Jena. Fünfte Auflage. Lieferung 3. Price M. 3.50. Lieferung 4 (Bd. I., Seite 401-560). Price M. 3.50. Lieferung 5 (Bd. VI., Bogen 1-10). Price M. 3.50. Lieferung 6 (Bd. III., Seite 1-160). Price M. 3.50. Lieferung 7 (Bd. I., Seite 561-720). Price M. 3.50. Leiferung 8 (Bd. I., Seite 721-880). Price M. 3.50. Lieferung 9 (Bd. I., Seite 881-986 Titel und Inhaltsverzeichnis, Bd. II., Seite 1-48). Price M. 3.50. Lieferung 10 (Bd. III., Seite 161-320). Price M. 3.50.

Handbuch der Vergleichenden Physiologie. Herausgegeben von *Hans Winterstein in Rostock. Neununddreissigste Lieferung.* Band I. Physiologie der Korpersäfte, Physiologie der Atmung. Zweite Halfte Seite 641-756, Band IV. Physiologie der Reizaufnahme. Reizleitung und Reizbeantwortung. Seite 977 Schluss Titel und Inhaltsverzeichnis. Price M. 5, Vierzigste Lieferung. Band III. Physiologie des Energiewechsels. Physiologie des Formwechsels. Zweite Hälfte. Seite 787-946. Price M. 5.

Erfahrungen über die Röntgenuntersuchung der Lungen unter besonderer Berücksichtigung anatomischer Controllen. Von Dr. Herbert Assmann (Leipzig), Mit einem Vorwort von A. v. Strümpell. Price M. 18.

Leitfaden für des embryologische Praktikum und Grundriss der Entwicklungslehre des Menschen und der Wirbeltiere. Von Prof. Dr. Albert Oppel, in Halle a S. Price M. 9.

Ueber den extrakardialen Kreislauf des Blutes vom Standpunkt der Physiologie, Pathologie und Therapie. Von Karl Hasebrook in Hamburg.

Die Morphologie der Missbildungen des Menschen und der Tiere. Ein Hand- und Lehrbuch f[illegible] tische Aerzte und Studiere[illegible] Dr. Ernst Schwalbe an der [illegible] Einzelmissbildungen. XI. Lieferung 1, Abeteilung, 5 und 6 Kapitel. Die Missbildungen des Kopfes. II. Die Cyclopie. Von Prof. Ernst Schwalbe und Dr. Hermann Josephy. III. Otocephalie und Triocephalie. Missbildungen des Halses. Von Dr. Hermann Josephy. Price M. 5.

Jenaer medizin-historische Beiträge. Herausgegeben von Prof. Dr. Theod. Meyer-Steineg. Heft 5 Zur Geschichte des Ammenwesens im klassischen Altertum. Von Dr. med. Wilhelm Braams. Price M. 1.

Vorlesungen über Allgemeine Epidemiologie. Von Prof. Dr. Paul Th. Müller an der Universität Graz. Price M. 5.50.

Ueber die Doehle-Heller'sche Aortitis (Aortitis luctica). Eine [illegible] Studie. Von Dr. Georg B. Gruber, [illegible] .12.

[illegible] klinische und experimentelle Studie über chirurgisches Vorgehen bei thorakalen und abdominellen Speiserohreng-eschwülsten. Von Privat-dozent Dr. Eduard Rehn (Jena). Price M. 7.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

A Handbook for the Post-mortem Room (Oxford Medical Publications). By Alexander G. Gibson, D.M. Oxon, F.R.C.P. Lond. Price 3*s*. 6*d*. net.

Coxa Vera, its Pathology and Treatment. By R. C. Elmslié, M.S., F.R.C.S. Price 2*s*. net.

JOHNS HOPKINS PRESS, THE, Baltimore.

The Statistical Experience Data of the Johns Hopkins Hospital, 1892-1911. By Frederick L. Hoffman, LL.D., F.S.S., Statistician to the Prudential Insurance Company of America. (The Johns *Hopkins Hospital Reports Monographs, New Series, No. IV.*)

LABORATOIRE D'HYPODERMIE, 15, Avenue Perrichont, Paris.

Manuel Pratique de la Médication Hypodermique. Par MM. Les Docteurs G. Bosc, Fernet, H. Gillet, Maute, Saïssi, Tournade, Gallot (Dentiste), et par L. Lecoq (Pharmacien de 1re classe). Second edition.

LIBRAIRIE VISCONTI, Nice. MALOINE, A., Paris. LIBRAIRIE LAMERTIN, Brussels.

Le Pain Blanc, ses Dangers et son Remède. Le Pain Naturel, par le Dr. Monteuuis. With a preface by Mr. le Pr. Letulle, Membre de l'Académie de Médecine. Price Fr. 2.50.

LONGMANS, GREEN, AND CO., London.

Rays of Positive Electricity and their Application to Chemical Analysis. By Sir J. J. Thomson, O.M., F.R.S. Price 5*s*. net.

Incandescent Electric Lamps and Their Application. By Daniel H. Ogley, late Research Scholar and Chief Assistant Lecturer in Electrical Engineering at the Royal Technical Institute, Salford. With illustrations. Price 2*s*. 6*d*. net.

Photo-Electricity. The Liberation of Electrons by Light, with chapters on Fluorescence and Phosphorescence and Photo-Chemical Actions and Photography. By H. Stanley Allen, M.A., D.Sc., Senior Lecturer in Physics at King's College. Price 7*s*. 6*d*. net.

The Nature of Enzyme Action. By W. M. Bayliss, D.Sc., F.R.S., Professor of General Physiology at University College, London. Third edition, revised and enlarged. Price 5*s*. net.

The Chemistry of the Radio-Elements, Part II. (The Radio-Elements and the Periodic Law). By Frederick Soddy, F.R.S., Lecturer in Physical Chemistry and Radiography in the University of Glasgow. Price 2*s*. net.

The Essentials of Chemical Physiology for the Use of Students. By W. D. Halliburton, M.D., LL.D., F.R.S. Eighth edition, with coloured plate. Price 5*s*. net.

Ventilation and Humidity in Textile Mills and Factories. By Cecil H. Lander, M.Sc., A.M.I.C.E., A.M.I.M.E. Price 4*s*. 6*d*. net.

MILLS AND BOON, London.

How to Treat by Suggestion With and Without Hypnosis. A Notebook for Practitioners. By Edwin L. Ash, M.D. Lond. Price 1*s*. net.

NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY AND FOR THE WELFARE OF INFANCY, 4, Tavistock-square, London, W.C.

English-speaking Conference on Infant Mortality. Report of the Proceedings of the English-speaking Conference on Infant Mortality, held at Caxton Hall, Westminster, on August 4th and 5th, 1913. Price 3*s*. net.

SAFAR, JOSEF, Wien und Leipzig.

Kurzes Lehrbuch [illegible] n Dr. med. et phil Jaroslav Hladik, [illegible] 55 Tabellen im Texte Price K.14.40 (M. [illegible]

SAUNDERS (W. B.) COMPANY, Philadelphia and London.

An Introduction to the History of Medicine. With Medical Chronology, Bibliographic Data, and Test Questions. By Fielding H. Garrison, A.B., M.D., Principal Assistant Librarian, Surgeon General's Office, Washington, D.C. Price 25*s*. net.

The Surgical Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. *December, 1913. Volume II., Number 6.* Price per year of six numbers, paper, *35s. net; cloth, 50s. net.*

Treatise on Diseases of the Skin. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D. Seventh edition, thoroughly revised. Price 25*s*. net.

SCIENTIFIC PRESS, THE, LIMITED, London.

Burdett's Hospitals and Charities. 1914. By Sir Henry Burdett K.C.B., K.C.V.O. Twenty-fifth year. Price 10*s*. 6*d*. net.

The Midwife's Pocket [illegible]. Price 6*d*. net.

Asepsis and How to [illegible] rson, F.R.C.S. Eng. Senior Surgeon to [illegible] General Hospital, Tottenham. Price 1*s*. net.

Surgical and Medical Dressings. By M. R. Hosking, Sister in-charge of the London Hospital Preliminary Training Home. Price 1*s*. net.

Wounds and their Management. By J. K. Watson, M.D. Edin. Price 1*s*. net.

The Nursing Mirror Pocket Encyclopædia and Diary, 1914. Enlarged and revised. Price 6*d*. net.

SIMPKIN, MARSHALL, AND CO., LIMITED, London.

Noted Murder Mysteries. By Philip Curtin. Price 7*s*. 6*d*. net.

Experience Teaches: Advice to Youths and Young Women. By Ivon Trinda. Price, cloth, 2*s*. 6*d*.; leather, 4*s*.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRAUND, HENRY, M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to All Saints' Hospital for Genito-Urinary Diseases, Vauxhall Bridge-road, S.W.

CANDLER, ARTHUR LAWRENCE, M.B., B.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Devon and Exeter Dental Hospital.

FERGUSON, R., M.D. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Ongar District of the county of Essex.

[illegible] ant Physician [illegible] nical Assistant [illegible] ses, Vauxhall Bridge-road, S.W.

GREENE, ARTHUR, M.D. Dub., F.R.C.S. Irel., has been appointed full Honorary Surgeon to the Norfolk and Norwich Eye Infirmary.

JENKINS, E. L., M.B., B.S. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Lynton District of the county of Devon.

KEITH, SKENE, M.B., B.S., has been appointed House Surgeon to All Saints' Hospital for Genito-Urinary Diseases, Vauxhall Bridge-road, S.W.

KNIGHT, CHARLES VOUGHTON, M.D. Lond., M.R.C.S., L.R.C.P. Lond., has been elected a Surgeon on the Honorary Staff of the Gloucestershire Royal Infirmary and Eye Institution.

O'CONNOR, EDWARD, M.B., B.Ch. Oxon., has been appointed Clinical Assistant to All Saints' Hospital for Genito-Urinary Diseases, Vauxhall Bridge-road, S.W.

O'REILLY, T. P., L.R.C.P. Irel., has been appointed Medical Officer for Tuberculosis in County Cavan, Ireland.

PITTS, ARTHUR T., M.R.C.S., L.R.C.P. Lond., L.D.S., has been appointed Dental Surgeon to the Hospital for Sick Children, Great Ormond-street.

RODGER, M. M., M.D., Ch.B. Glasg., has been appointed Assistant Medic[illegible]

SAMUELS, [illegible] Dental Surgeon to the D[illegible]

STOKES, JOHN, M.D. Durh., has been appointed *Honorary* Physician to the Sheffield Children's Hospital.

WARDROP, J. G., M.R.C.S., L.R.C.P. Lond., has been appointed House Physicia[illegible] Hospital.

ZOBEL, S., [illegible] ppointed Clinical Assistant to All Saints' Hospital for Genito-Urinary Diseases, Vauxhall Bridge-road, S.W.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (*see Index*).

AYR DISTRICT ASYLUM.—Junior Assistant Physician. Salary £200 per annum, with board, lodging, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £100 per annum, with residence, board, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

Belgrave Hospital for Children, Clapham-road, S.W.—House Physician for six months. Salary at rate of £75 per annum, [illegible]

Birmingham, City of.—Female Assistant Medical Officer of Health for Infant Consultation work, &c. Salary £300 per annum.

Birmingham Union, Dudley-road Infirmary.—Resident Assistant Medical Officer. Salary £140 per annum, with apartments, rations, laundry, and attendance.

Bolton, County Borough of.—Assistant Medical Officer of Health and School Medical Officer. Salary £250 per annum.

Brentford Union Infirmary, Workhouse, and Schools, Isleworth, W.—Second Assistant Medical Superintendent, unmarried. Salary £150 per annum.

Bridgwater Hospital.—House Surgeon, unmarried. Salary at rate of £125 per annum, with board, lodging, and washing.

Brighton, Royal Alexandra Hospital for Sick Children, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

Brighton, Royal Sussex County Hospital.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing. [illegible] Salary £80 per annum.

Bristol Royal [illegible] House Physician, and [illegible] all for six months. Sa[illegible] board, apartments, and laundry.

Burnley, Victoria Hospital.—Second House Surgeon for six months Salary at rate of £80 per annum, with residence, board, and washing.

Cancer Hospital (Free) [illegible].—House [illegible] Tenens [illegible] per week, [illegible]

Ca[illegible] £340 per annum.

Caterham Asylum, Caterham, Surrey.—Senior Assistant Medical Officer. Salary £300 per annum, with board, lodging, and washing.

Central London Ophthalmic Hospital, Judd-street, W.C.—[illegible]

Doncaster, Royal Infirmary and Dispensary.—Assistant House Surgeon. Salary £100 per annum, with board, apartments, and washing.

[illegible] Surgeon, unmarried. [illegible] and laundry. [illegible] er of Health. Salary [illegible] ensary for Women, [illegible] Department for six [illegible] th luncheon and tea. [illegible] of £75 per [illegible] alary £70 [illegible] Assistant [illegible] ith board, apartments, and washing.

Essex Education Committee.—Two Medical Inspectors. Salary £300 per annum.

Exeter, Royal Devon and Exeter Hospital.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, [illegible]

[illegible] Lying-in Charity, 17, [illegible] E.C.—Resident Medical [illegible] ooms, attendance, fire, and lighting.

Folkestone, Royal Victoria Hospital.—Resident House Surgeon. [illegible] with board and apartments.

Gloucestershire Royal Infirmary and Eye Institution.—[illegible] urgeon, unmarried. Salary [illegible] and washing. [illegible] Salary £60 per annum, with board and residence.

Ha[illegible] and Third [illegible] er annum [illegible]

He[illegible] nt Medical [illegible] washing.

Ho[illegible] way, N.—[illegible] num, with [illegible]

Kin[illegible] t Assistant [illegible] , lodging, and attendance.

King's College Hospital, Denmark Hill, S.E.—Assistant Anæsthetist.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

Leeds University.—Demonstrator in Bacteriology. Salary £250 per annum. *Also Junior Demonstrator in Pathology.* Salary £150 per annum.

Lei[illegible]

Leicestershire Education Committee.—Assistant School Medical Officer. Salary £250 per annum.

[illegible] washing, &c.

Manchester, Ancoats H[illegible] Three Anæsthetists, two mornings per week [illegible]

Manchester Children's [illegible] chester.—Resident Medical Offic[illegible] £100 per annum.

Manchester, Children's Hospital (Out-Patients' Department), [illegible] annum, with board, lodging, and washing.

Metropolitan Hospital, Kingsland road, N.E.—Assistant Dental Surgeon.

[illegible] £250 per annum [illegible] at rate of £160 per annum, with apartments, &c.

Notts Education Committee.—Assistant School Medical Officer. Salary £300 per annum.

Oldham Royal Infirmary.—Third House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and laundry.

Preston, County Asylum, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

Prince of Wales's General Hospital, Tottenham, N.—Senior House Physician. Salary £75 per annum, with residence, board, [illegible] lation Hospital [illegible] rried. Salary [illegible] ss than Twelve [illegible] washing.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Honorary Anæsthetist.

Royal Naval Medical Service.—Twenty-five Appointments.

St. Giles Infirmary, Brunswick square, Camberwell, and Gordon-road Workhouse, Peckham.—Second Assistant Medical Officer. [illegible] or [illegible] Bacteriologist. Salary £60.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, [illegible] House Surgeon and Casualty [illegible] alary at rate of £65 per annum [illegible] Salary [illegible] on. [illegible] ary [illegible] ical [illegible] nts, rations, &c.

Southampton, Royal South Hants and Southampton Hospital.—House Surgeon for six months. Salary at rate of £100 per annum, with rooms, board, and washing.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with board, lodging, and washing.

Stockport Infirmary.—Junior House Surgeon. Salary £100 per annum, with board, washing, and residence.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with [illegible] and laundry.

Surrey Dispens[illegible] sident Medical Officer. Salary £140 p[illegible] attendance, &c.

University College Hospital, Gower-street, London, W.C.—Assistant Surgeon.

Ventnor, Royal National Hospital for Consumption and Diseases of the Chest on the Separate Principle.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

Warrington, Lancashire County Asylum, Winwick.—Pathologist and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

West African Medical Staff.—A number of Appointments. Salary £400 per annum.

Western Dispensary, 38, Rochester-row, Westminster.—Resident Medical Officer. Salary £75 per annum, with apartments, attendance, &c.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Clinical Assistants.

West Ham and Eastern General Hospital, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

West London Hospital, Hammersmith-road, W.—Two House Physicians, Three House Surgeons, and Resident Casualty Officer for six months. Board, lodging, and laundry allowance provided.

Westminster General Dispensary, 9, Gerrard-street, Soho, W.—Resident Medical Officer. Salary £120 per annum, with rooms, attendance, &c.

Whitechapel Union Infirmary, Vallance-road, E.—Second Assistant Resident Medical Officer. Salary £120 per annum, with rations, [illegible]

Wic[illegible] **Infirmary and Dispensary.**—[illegible]y £100 per annum, with board, apartments, and washing.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £90 per annum, with apartments, board, and laundry.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Also House Surgeon. Salary in each case £125 per annum, with board, rooms, and laundry.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Acts at Shoreham, in the county of Sussex.

Births, Marriages, and Deaths.

BIRTHS.

Fenwick.—On March 2nd, at Forres-gardens, Golder's Green, N.W., the wife of W. Stephen Fenwick, M.S., F.R.C.S., of a son.

Guthrie.—On Feb. 27th, at Woodland-road, Rock Ferry, Cheshire, the wife of Thomas Mansfield Guthrie, M.B., of a daughter.

Strickland.—On Feb. 28th, 1914, at The Limes, Southend-road, Beckenham, Kent, the wife of Harold F. Strickland, F.R.C.S., of a son.

Turner.—On March 2nd, at Harley-street, W., the wife of William Aldren Turner, M.D., of a son.

Williamson.—On Feb. 25th, at Camp-terrace, North Shields, to Dr. and Mrs. J. Burrell Williamson, a son.

MARRIAGES.

Hosford—Coleman.—On Feb. 28th, at St. John's, Hove, J. Stroud Hosford, F.R.C.S. Edin., to May, daughter of the late Mr. W. Coleman, of Runhall, Norfolk, and niece of the late Mr. Alfred Coleman, of Paris. Colonial papers, please copy.

Mackinnon—Williams.—On Feb. 25th, at Marylebone Parish Church Daniel Mackinnon, M.B., Ch.B., D.P.H., to Jessie, widow of the late Arthur Williams.

Rix—Wagstaff.—On Feb. 23rd, at the Parish Church, Berkhamsted Herts, Rowland Waters Rix, F.R.C.S., to Marjorie Edith, younger daughter of Philip Wagstaff, of Berkhamsted.

DEATHS.

Stewart.—On Feb. 27th, Donald Stewart, M.D., of The Prebendal, Aylesbury, native of Nottingham, in his 72nd year.

Williams.—On Feb. 25th, at Brunswick-place, Southampton, Edward Hanbury Williams, Fleet Surgeon, R.N. (retired), aged 60.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE MILWARD FUND.

Mr. William Courtenay Milward, B.A. Oxon., M.R.C.S., L.R.C.P., of Cardiff, died on April 9th, 1913, leaving a widow and three boys, aged 15, 9, and 2. His estate produced £200, to which is to be added £163 collected from the local profession as a testimonial to Mr. Milward shortly before his death. This fund, for the benefit of the widow and children, was opened on April 15th, 1913, and closed on Jan. 31st, 1914. The total amount collected from medical men and a few non-medical friends with bank interest is £1348 11s. 1d. The expenses of collection were £20 5s. 2d., leaving £1328 5s. 11d. Besides this sum promises of further annual subscriptions to the fund will bring in the following amounts, viz.:—

In 1914	£56 5s.
,, 1915	£56 5s.
,, 1916	£51 5s.
,, 1917	£44 19s.
,, 1918	£36 12s.

We hope to publish the statement of the committee of the fund in an early issue of The Lancet.

MARTIAL AND MEDICINE.

To the Editor of The Lancet.

Sir,—Owing to absence in Spain I have only to-day seen Mr. Eade's letter of Feb. 18th on this subject in your issue of Feb. 21st. I was familiar with the epigram, "Lotus nobiscum est," &c., but I refrained from translating it, as I felt I could not cut myself free from a spirited rendering which I had read in some old Dublin magazine, and which I fancy I recollect correctly as follows:—

[illegible] was well and hearty,
[illegible] mer party:
[illegible] was the attack?
[illegible] the quack.

In the absence of any books of reference, I speak hesitatingly as to Mr. Platt's suggestion that Martial was indebted to Lucilius for his jibe. The two men were contemporary, and though Martial published his poems mainly towards the end of the first century A.D., I cannot be sure which wrote before or after the other.

A few days since I passed through the place of Martial's birth, the ancient Bilbilis. The whole district is a congeries of wild craggy mountain sides. The low houses, mostly of one storey and built of the local stone, seemed welded into the brown rock on and in which they are built. So alike in colour are houses and rocks that a whole town, right before your eyes, only slowly emerges out of the dreary dun background. One cannot wonder that Martial sighed for the flesh-pots of Imperial Rome.

I am, Sir, yours faithfully,
Nimes, March 2nd, 1914. Raymond Crawfurd, M.D.Oxon.

GRENADA MEDICAL REPORT.

The Blue Book report of Grenada for the year 1912, which the Governor explains has been delayed by various causes, estimates the population of the colony at 68,485. The birth-rate per 1000 was 38·19 and the death-rate 22·9. The year was not a healthy one, the death roll reaching 1575, whic[illegible] for Grenada. Diarrhœa, dysentery, and [illegible] the principal causes of death, and there were no less than 76 deaths from phthisis recorded. The rainfall at Richmond Hill station, 63·98 inches, was the smallest recorded since 1900, when it was 63·45 inches. The average rainfall at this station for the last 22 years has been 76·98 inches. A case of bubonic plague was introduced from Trinidad, but fortunately the subject was under suspicion from the moment he arrived and was removed from the ship to the isolation hospital, where he died. A most important change affecting the health of the lower class [illegible] during the year, the fees of medi[illegible] "labourers" being considerably [illegible] 'labourers'" medicine altered from 1s. to 6d. per prescription. It has thus become possible for a labourer in Grenada to go to the residence or station of a district medical officer and obtain medical advice and medicine for 1s. 6d., while the fees for visits to patients' houses have [illegible] reduced.

In the colo[illegible]nts were treated during the year, in[illegible] from ankylostomiasis. This hospital has been much improved and its work expanded. An English nurse matron, Miss J. S. Gardner, has been appointed, and accommodation provided for

36 more patie [illegible] constructed [illegible] In the Yaws [illegible] charged as c [illegible] treatment of the disease by salvarsan was carried out with [illegible] pensary, which [illegible] which 7205 were [illegible] pital the number of patients treated was only 186, of whom 129 were cured, 22 relieved, and 7 died. A much-needed hospital for consumptives has been opened, providing accommodation and treatment on modern lines for 24 cases.

THE "ART AND MYSTERY" OF MEDICINE.

To the Editor of THE LANCET.

SIR,—From time to time I re [illegible] longer a "mystery." I [illegible] on this fact is based on a [illegible] stery meaning a secret doctrine has quite a different etymology to mystery, a trade, profession, or handicraft. The latter is seen in the old French *mestier* [illegible] that medicine [illegible] ministration [illegible] is almost equ [illegible] medicine," and any arguments based on a false etymology fall to the ground. I am, Sir, yours faithfully,

London, March 3rd, 1914. BLANCUS.

A BY-LAW CONCERNING HATPINS AT CARDIFF.

IT is probable that the Cardiff corporation is the first public body in the United Kingdom to decide to take steps to lessen the danger from the pointed ends of hatpins protruding from the hat of a lady. On the proposition of a medical member of the corporation a by-law has been passed to the effect that—

> A female person wearing a hatpin in any street or public place, church, chapel, or other place of public worship, public hall, public waiting room, place of public entertainment, or public carriage shall cause the point to be properly protected by a blunt guard of metallic or other material.

AN ELASTIC TRUSS.

Mr. John Dee Shapland, of Exmouth, has sent us a new form of truss which he has found very useful in practice. It is almost impossible for anyone to devise a truss on an entirely new principle, [illegible] details than on the mer [illegible] are no metal springs [illegible] rubber exterior filled [illegible] to bear on the ingui [illegible] rigid as in many for [illegible] position by means of [illegible] to be of great value [illegible] geons know that in one case one form of truss suits a patient well, while in another case a different form is needed; there is no truss which will fit all forms of inguinal hernia, but this truss is well designed and deserves to be tried in any case in which the ordinary forms have failed to retain the hernia.

INSURANCE AGAINST TWINS.

A p [illegible] it will in [illegible] whom ar [illegible] editor proposes to give £5 to every mother of twins born in the United Kingdom, the Channel Islands, and the Isle of Man during the month of July next, on condition that readers who claim the bounty shall retain the 12 coupons to be issued with the paper during the 12 previous weeks. [illegible] £5 must be sent in within [illegible] ccompanied by the 12 coupons [illegible] medical man or certified [illegible] oth children have lived for [illegible] of the editor is final. What [illegible] receives a letter five weeks [illegible] child to say that a second child has been born to the mother? Such a case actually did happen last year at Barrow, near Clitheroe, when the father made application for maternity benefit in respect of the second child. The Commissioners decided that it was a separate birth, thus entitling parents to the double benefit (*vide* THE LANCET, June 7th, 1913, p. 1627), but it might be argued [illegible] not constitute twins. As [illegible] which will be claimed, Dub [illegible] ouchements in Germany, En [illegible] e 6248 cases of twins, 78 of triplets, and 4 of four at a birth, or putting it in another form there was one case of twins in 78 *deliveries, one case of triplets* in every 6209 deliveries, and one case of four at a birth in 121,082 deliveries. Veit, basing his statement on an immense number of deliveries, found the proportion of one twin delivery to 89 single births. In France twins are delivered in the proportion of 1 to 92 single births, in Germany 1 to 84 cases, and in Great Britain 1 to 63 cases of single births.

HOW DISEASE IS SPREAD.

AT the last meeting of the Totnes (Devon) rural district council the medical officer of health (Mr. S. C. Jellicoe) reported two cases of diphtheria in the village of South Brent. He stated that in each case printed and verbal instructions were given as to the precautions required to be taken, but in the case that terminated fatally these were absolutely unheeded, and nearly 20 school children were allowed to enter the house and touch the dead child's body.

THE "TANTLUS" BOTTLE LOCK CORK.

WE have received from Mr. H. Yeild Collis, of 4, Market street, Stourbridge, a [illegible] invented for locking [illegible] Its working principle [illegible] to the inventor tha [illegible] advantage to poison [illegible] *of the cork is fitted* [illegible] its end. The bolt can only be released by a key. When it is released it resembles a buffer of a railway carriage. When it is pressed down again on the corks it automatically locks, and neither corkscrew, lever, nor fingers can extract the cork, which is well sunk into the neck of the bottle. The act of pressing the key [illegible] moderate. The fact that a key is required to release a cork draws attention at once to the serious nature of the contents of a poison bottle.

Mr. H. Hacs.—There is nothing in our correspondent's suggestion.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8 30 a m by Steward's Instruments.)

THE LANCET Office, March 4th, 1914.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks
Feb 26	29 90	S W	.	59	49	37	39	40	Overcast
" 27	30 15	S W		78	53	38	39	40	Foggy
" 28	30·20	S W		80	55	40	41	42	Fine
Mar. 1	30 04	W.	0·03	96	56	42	43	45	Fine
" 2	30 03	W	0 04	79	47	36	36	37	Fine
" 3	29 98	S W		63	50	37	40	41	Overcast
" 4	29 73	W	0 09	64	54	41	48	49	Overcast

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.

" 13th-16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage, Bruxelles.)

" 15th-18th (Berlin).—Forty third Congress of the German Surgical Society.

" 19th-21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.

" 20th-23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.

" 27th-May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.

May 1st-Nov. 1st (Lyons).—International Town Hygiene Exhibition.

May-October (London, Shepherd's Bush).—Anglo-American Exposition.

June 18th-24th (London, Church House, Westminster).—International Conference on the Blind.

July 6th-11th (Blackpool).—Twenty ninth Congress of the Royal Sanitary Institute.

" 8th-10th (Oxford).—Ophthalmological Congress.

July 8th-13th (Edinburgh).—Congress of the Royal Institute of Public Health.

„ 21st-23rd (Chester).—British Pharmaceutical Conference.

„ 27th-31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.

„ 28th-31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.

Aug. 3rd-8th (London).—Sixth International Dental Congress.

„ 10th-15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.

Sept. 7th-12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

„ 30th-Oct. 3rd (Brussels).—Fourteenth French Congress of Medicine.

September (Vienna).—Third International Congress for Diseases of Occupation.

Nov. 15th-21st (London).—Health Week. (Under the direction of the Health Week Committee appointed by the Royal Sanitary Institute.)

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

In 1915:—

May 31st-June 5th (London, South Kensington).—Sixth International Congress of Social Work and Service.

Sept. 8th (begins) (Manchester).—Meeting of the British Association.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Sir James Stirling: Note on a Functional Equation employed by Sir George Stokes.—Prof. J. C. McLennan and Mr. A. R. McLeod: On the Mercury Green Line $\lambda = 5461$ as Resolved by Glass and Quartz Lummer Plates and on its Zeeman Components (communicated by Sir J. Larmor).—Mr. H. Hartley: The Electrical Condition of a Gold Surface during the Absorption of Gases and their Catalytic Combustion (communicated by Prof. W. A. Bone).—Mr. J. H. Mackie: The Diffusion of Electrons through a Slit (communicated by Prof. J. S. Townsend).—Dr. A. Holt: The Rate of Solution of Hydrogen by Palladium (communicated by Mr. G. T. Beilby).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY (Hon. Secretaries—J. Murray, Raymond Johnson): at 5.30 P.M.

Paper:

Mr. Herbert J. Paterson: Gastro-jejunostomy: the Principles which should Determine its Application and the Indications for its Use.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 8.30 P.M.

(Joint Meeting with British Psychological Society.)

Mr. W. McDougall, F.R.S.: The Definition of the Sexual Instinct.
Dr. H. Devine: The Biological Significance of Delusions.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries—W. Essex Wynter, T. H. Kellock): at 8.30 P.M.

Cases:

Mr. Henry Curtis: Case of Primary Squamous Epithelioma of the Exterior of the Left Nostril Illustrating the Radical Modern Operation.

And other Cases.

Short Paper:

Mr. V. Zachary Cope: Traumatic Sensory Aphasia.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Discussion on Radium Therapy, introduced by Mr. H. Pinch. Followed by Sir Frederick Treves, Bart., G.C.V.O., Sir A. Pearce Gould, K.C.V.O., Mr. A. C. Morson, Dr. H. Williamson, Mr. T. H. Kellock, Mr. D. Harmer, Dr. Finzi, Dr. D. Turner, and Dr. L. Jones.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Annual Clinical Debate on Arteriosclerosis. Paper:—Prof. L. Hill: New [illegible] nent of Blood Pressure in Man. [illegible] hich Dr. McQueen, Dr. M. Flac [illegible] and others will take part.

HUNTERIAN SOCIETY, Library, St. Bartholomew's Hospital, E.C.

WEDNESDAY.—9 P.M., Papers:—Dr. W. H. Kelson: Nasal Suppuration, more Particularly as Associated with Diseases of the Eye.—Dr. R. D. Maxwell: Specimens of Two Fœtal Heads—(1) Hydrocephalic, (2) Defective Ossification—with Remarks on their Obstetric Significance.—Mr. A. S. B. Bankart: Colles's Fracture and its Treatment.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.

WEDNESDAY.—9 P.M., Dr. C. O. Hawthorne: The Clinical Value of the Instrumental Estimation of Blood Pressure.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

THURSDAY.—5 P.M., Major E. T. F. Birrell, R.A.M.C.: Some Experiences of the Balkan War.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Harveian Lecture:—Mr. D'Arcy Power: English Medicine and Surgery under Edward III. (illustrated by lantern slides).

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Board Room of the Great Northern Central Hospital, Holloway-road, N.

THURSDAY.—9 P.M., Paper:—Dr. L. Barlow: Radium and Radiation as a Therapeutic Agent.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon, S.W.

FRIDAY.—9 P.M., Address:—Mr. J. S. Joly: The Diagnosis and Treatment of Enlargements of the Prostate.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Goulstonian Lectures:—Dr. M. A. Cassidy: Rheumatoid Arthritis. (Lectures I. and II.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Hunterian Lecture:—Prof. C. M. Moullin: *Observations on the Biology and Classification of Tumours.*

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. W. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Sir George Savage: Syphilis and Insanity.

TUESDAY.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P.M., Lecture:—*Dr. W. H. Stoddart: The Modern Treatment of* General Paralysis.

WEDNESDAY.—4 P.M., Mr. W. Turner: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. E. Giles: The Evolution of Hysterectomy.

THURSDAY.—4 P.M., Mr. C. W. Rowntree: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. J. McCann: The Treatment of Infection of the Female Genitalia.

FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, *Dr. Bernstein: Pathological Demonstration.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Saunders: Gastro-intestinal Disorders of Infancy and Childhood.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Gastro-intestinal Disorders of Infancy and Childhood.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Saunders: Gastro-intestinal Disorders of Infancy and Childhood.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. *X Rays.* Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Saunders: Gastro-intestinal Disorders of Infancy and Childhood.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Gastro-intestinal Disorders of Infancy and Childhood.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. *Mr. Pardoe: Operations.*

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). X Rays and Electrical Methods. 3 P.M., Special Demonstration of Selected Medical Cases (Dr. R. M. Leslie). Medical In-patient (Dr. Whiting). 4.15 P.M., Lantern-Demonstration:—Mr. Howell Evans: Strictures and Kinks of the Small Intestine.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out patient (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. R P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Syphilology:—

TUESDAY.—4.15 P.M., Dr. O. Grunbaum: The Viscera.

WEDNESDAY AND FRIDAY.—4.15 P.M., Mr. A. B. Roxburgh and Mr. W. T. Lister: The Eye.

[illegible]

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. S. Melville: The Technique of the X Ray Examination of the Lungs.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

FRIDAY.—5 P.M., Lecture-Demonstration:—Dr. Stott: The Use of Graphic Records in Heart Disease.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3 30 P.M., Lectures.—Dr. H. Tooth: Clinical Cases.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

TUESDAY.—4 P.M., Lecture:—Dr. R. A. Chisolm: Anæmia in Childhood.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.

Post-Graduate Lectures on the Diagnosis and Treatment of Cancer:—

WEDNESDAY.—5 P.M., Mr. C. Rowntree: Cancer of the Breast.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—2 P.M., Dr. W. Griffith: Diseases of the Hair.
THURSDAY.—6 P.M., Dr. M. Dockrell: Treatment by Cataphoresis and Electro-inunction.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers, Medical Practitioners, &c.:—

FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture IX.:—Dr. D. J. Williamson: Treatment—Tuberculosis Dispensaries.

ROYAL SANITARY INSTITUTE, 90, Buckingham Palace-road, S.W.

TUESDAY.—7.30 P.M., Discussion on Social Conditions in Relation to [illegible] Hilda Clark: The [illegible] Side; Dr. F. E. [illegible] Question.

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TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Mr. G. Wright. Demonstration of Surgical Cases in the Wards.
WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Dr. W. E. Fothergill A New Modification of Colporrhaphy.
THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Dr. Leech: Enemata.
FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. Hill Griffith Congenital Abnormalities.

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Hunterian Lecture

ON

CHANGES IN THE BLOOD IN THE CAUSATION OF SURGICAL SHOCK.

Delivered before the Royal College of Surgeons of England on Feb. 9th, 1914,

BY A. RENDLE SHORT, M.D., B.S., B.SC. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON AT THE BRISTOL ROYAL INFIRMARY; LECTURER IN PHYSIOLOGY IN THE UNIVERSITY OF BRISTOL; EXAMINER IN PHYSIOLOGY FOR THE FIRST F.R.C.S.

MR. PRESIDENT AND GENTLEMEN,—I desire to express my very sincere appreciation of the honour of being permitted to address you this afternoon. My subject is one of the meeting-places of physiology and surgery. These meeting-places are likely in the future to assume more and more importance. Anatomy has been the traditional road to surgery in the past, but it has almost paid the sum-total of its contributions towards the advancement of surgical science. Physiology, on the other hand, which has grown out of all knowledge in the past 20 years, still stands full of gifts, as the work of physiologists like Horsley, Crile, and Cushing has already shown. Primitive surgery had to face four apparently insurmountable barriers before it could fulfil its mission in the saving of human life and the relief of suffering. The first of these was hæmorrhage, and the victory had already been gained in Hunter's day. The second was pain. This barrier fell down when anæsthetics were introduced. The third was sepsis, a danger which Lord Lister showed us how to triumph over. The last great barrier to be conquered is shock, and we do not yet see how the assault is to be made. But three victories make us very confident of final success, and we believe that one day surgery will have lost its main terrors and will be able to bring benefit to patients who are now doomed to die unrelieved; for instance, cases of intracranial or intrathoracic disease, and what we now call inoperable carcinoma. We may not hope to prevent or treat surgical shock until we have an accurate conception of its nature and causation, and we shall proceed to pass in review some of the suggestions which have been made, and to see how they fare under the criticism of exact experiment. This review will be in a sense the mental autobiography of the writer, inasmuch as he has been attracted by each theory in turn, but on putting it to the test has had to give it up for another.

It will be useful first to quote from an esteemed writer the symptoms of shock as they appeared before attempts had been made to fit them into any of the modern theories. Sir W. Watson Cheyne[3] wrote in 1898: "The patient who is suffering from shock is usually found lying in a state of complete muscular relaxation, or if he makes any movements they are very irregular and feeble. The face is pale and drawn, the pupils dilated, there is sweating about the head, the reflexes are very slight, there is diminished sensibility, but not absolute unconsciousness. The patient can answer questions when spoken to, but if not disturbed will generally lie in a semi-conscious condition. The respirations are feeble, irregular, and sighing. The pulse is small, frequent, and dicrotic. At first the pulse-rate is generally slowed, and increased frequency of the heart beat is regarded by some as a sign of the commencement of reaction. The skin is cold; the temperature subnormal." With the possible exception of the statements concerning the pulse-frequency, this clinical picture will command universal assent. We shall have to refer to it repeatedly.

THE THEORY OF CRILE AND MUMMERY.

Some of us well remember the eager interest with which we read Mr. J. P. Lockhart Mummery's exposition of this theory in 1905. His work was in the main a confirmation of the laborious researches of Professor Crile in America. The essence of the theory is that the vaso-motor centre in the brain is first stimulated and then exhausted by painful, or as we should now say nociceptive, impulses coming to it from the afferent nerves. All the phenomena of shock are due to this primary exhaustion of the vaso-motor centre. The most characteristic index of shock is the fall of blood pressure. It will not be necessary here to set forth the arguments by which this view was defended. Surgery undoubtedly owes a great debt to Crile's researches. He has established for us the importance of the sphygmomanometer in measuring shock, the value of nerve-blocking in preventing it, and the general principles of its avoidance and treatment. Nevertheless, it is scarcely going too far to say that the theory is beyond doubt erroneous. It has been maintained by a number of competent observers, both on clinical and experimental grounds, (*a*) that the peripheral arteries may be contracted, not dilated, during shock; and (*b*) that the vaso-motor centre is not necessarily exhausted, even in extreme shock. If the failure of the vaso-motor centre was the main factor in the genesis of shock, an examination of the pulse and blood pressure would be a sure indication of the patient's condition. No doubt a bad pulse and a fall of tension are grave signs, but no surgeon, anæsthetist, or practitioner accustomed to judge of the prospects of a patient after a severe operation will dare to maintain that because the pulse is good and the blood pressure normal there can be no fear of death from shock. Only too commonly, in spite of an apparently efficient vaso-motor centre when the patient leaves the table, severe depression of all the vital functions comes on a few hours later and death follows. There may be shock, then, with a normal blood pressure.

Again, Mr. J. D. Malcolm[4,5,6] has repeatedly pointed out that the condition of a patient in shock does not correspond with the clinical picture of vaso-motor paralysis. Compare it, for instance, with belladonna poisoning, in which the small arterioles are undoubtedly released from nervous control, causing, as we know, a flushed skin. In shock, on the other hand, the skin is pale, the pulse is small, bleeding is scanty, and the anuria suggests that the renal vessels are contracted. The abdominal viscera are pale unless they have been long exposed. Seelig and Lyon point out that the retinal blood-vessels are contracted to one-half or one-third their normal calibre, and amaurosis may occur (it is possible, however, that the retinal vessels, like the cerebral, are not under the direct control of the vaso-motor system). Warmth does the patient more good than cold, whereas if the cutaneous vessels were dilated the reverse should be the case. Mr. Malcolm's observations have not attracted the credence they deserve, because it is so difficult to understand how there can be a fall in blood pressure with an efficient heart and contracted vessels.

Animal experimentation confirms the clinical

74, then pulse disappeared. Anæsthetic, $CHCl_3$ and open ether about equally; Clover at intervals. Specific gravity at beginning 1·048. Specific gravity at end 1·045. *Sequel*, died 3 days later.

2. Female, aged 63. Cancer of splenic flexure removed, 1½ hours. Very fat patient. Very little blood lost. Pulse good at end, but patient looked bad. Specific gravity at beginning 1·058. Specific gravity at end 1·060. *Sequel*, died suddenly 3 days later.

3. Female, aged 36. Post-partum shock. Lost 15 ounces of blood at confinement. Presentation normal; adherent placenta extracted under $CHCl_3$. Severe shock four hours later, pulse ?160, too feeble for blood pressure to be taken. Looked bad. Saline had been given per rectum. Six hours after delivery specific gravity 1·060. *Sequel*, recovered.

4. Male, aged 39. Intramedullary plugging for fractured femur; traction by Lambotte's extension apparatus. No hæmorrhage; one and a half hours. Severe operation, but very little shock; blood pressure at end 134. Specific gravity at end 1·061. *Sequel*, recovered.

5. Female, aged 50. Big breast cancer operation with supraclavicular glands; one hour. Several attacks of syncope, but not marked shock. At end, pulse 60, blood pressure 108. Specific gravity 1·060. *Sequel*, recovered.

6. Male, aged 30. Perforated typhoid ulcer, very bad. Near end, specific gravity 1·061. *Sequel*, died within 24 hours.

7. Female, aged 18. Extensive burns seven hours before, involving abdomen, buttocks, thighs, hands, and arms. Pulse good, but looked ill; vomiting; thirsty. Specific gravity, 1·072. Next day, specific gravity, 1·072. Twelve days later specific gravity, 1·059. *Sequel*, recovered.

8. Male, aged 40. Arthroplasty of hip; patient feeble, with ankylosed spine. Took one and a half hours. Pulse soft and feeble, disappeared at intervals. Blood pressure near end 85; temperature after operation 96·6°. Specific gravity at beginning 1·062. Specific gravity at end 1·063. *Sequel*, recovered. Blood pressure three days later 115.

9. Female, aged 36. Extensive cancer of stomach; vomiting incessantly for several days. Gastrojejunostomy. No signs of shock clinically. At beginning, specific gravity 1·055; at end, specific gravity 1·059. *Sequel*, recovered.

10. Female, aged 43. Wertheim's hysterectomy for cancer of cervix. Full anoci-association. Bladder wounded and sewn up. Bad shock at end (2 hours), pulse quick and feeble, blood pressure 70. At beginning, specific gravity 1·046; at end, specific gravity 1·047. *Sequel*, died 15 hours after.

11. Female, aged 62. Jumped from a window. Fractures of both femurs; scalp wound. Six hours after specific gravity 1·060. *Sequel*, recovered.

12. Female, aged 29. Severe burns from knees to umbilicus 10 hours before. Pulse quick and feeble, marked shock. Specific gravity 1·073. *Sequel*, recovered.

13. Girl, aged 2½. Burns of face and thighs, about 9 inches square. Pulse 90, no shock. Blood taken 4 and 8 hours after. Specific gravity 1·060. *Sequel*, recovered.

both died from it, yet the specific gravity of the blood showed a fall in one case and a wholly insignificant rise in the other. Nothing but a rise of 0·010 would be sufficient to indicate a loss of fluid likely to reduce the blood pressure. We may take it, therefore, that the oligæmia theory of Cobbett and Vale is definitely disproved as the ordinary cause of surgical shock. We notice, further, that the only operation case which showed a marked rise was a bowel anastomosis. Sherrington, and also Roy and Cobbett, made their original observations on the specific gravity of the blood on animals whose intestines were manipulated. Probably this handling leads to an effusion of fluid into the peritoneum.

By a singular mischance it was only possible to obtain the blood of two severe burn cases. These showed a most remarkable rise in the specific gravity in one patient amounting to 0·013, and lasting over 24 hours. This corresponds to a loss of fluid of about a quart from the circulation, and probably explains the thirst and the vomiting. Perhaps further investigation may show that in burn cases oligæmia *is* an important factor in the causation of shock. It is quite clear that the administration of as much fluid as possible is urgently indicated.

A third point of interest is with reference to the two cases of Wertheim's hysterectomy (Cases 1 and 10). It will be observed that the specific gravity before operation was very low—1·048 and 1·046, instead of 1·057. This was probably the result of prolonged loss of blood. Both cases died from shock. It has been found by Douglas that a fall in the specific gravity of the blood is common in cancerous cachexia. We may have here an easy means of detecting cases whose general condition is already too grave to permit of major surgery. The estimation of the specific gravity is simple, only takes three minutes, and can be done with a drop or two of blood. It remains to be determined just where the limits of safety lie. In the two fatal cases there was a fall of 0·010. The writer has performed a big operation with no ill effects on a man whose blood was reduced to 1·053.

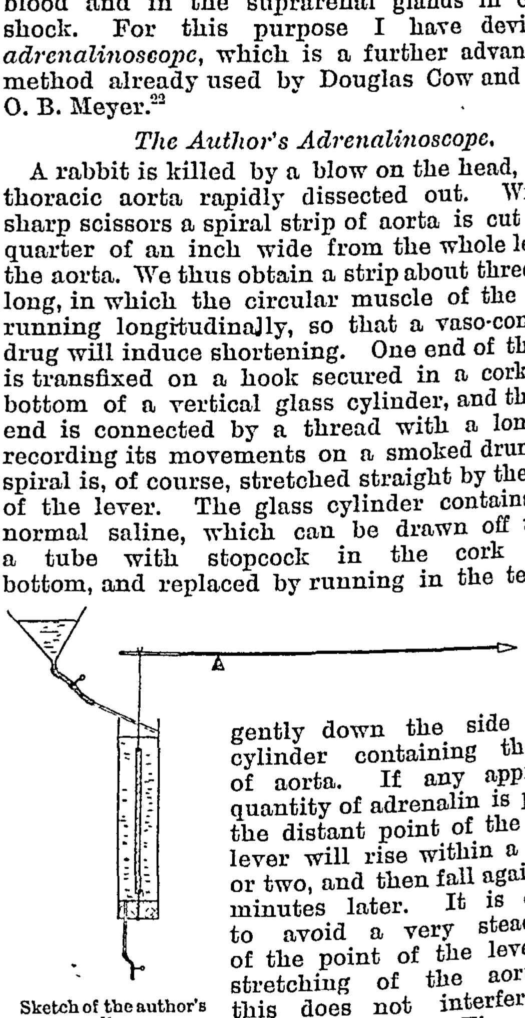
THE SUPRARENAL EXHAUSTION THEORY.

Perhaps no one has definitely formulated any such theory as yet, but it is certainly deserving of examination. Recent physiological research has shown that painful stimuli lead to a reflex outpouring of adrenalin from the suprarenal glands into the circulating blood (Elliott,[18] von Anrep,[19] Levy[21]). If this took place to a considerable extent there would be a preliminary rise of blood pressure, followed, perhaps, by suprarenal exhaustion and a profound fall of pressure in spite of a normal heart and vaso-motor centre. Bainbridge and Parkinson[20] found absence of the chromaffin substance in the medulla of the suprarenals in two patients who died from shock. Priestley found the same absence in 84 per cent. of cases dying with a low blood pressure. Here, at least, is a *primâ facie* case for the suprarenal exhaustion theory.

Examination of the chromaffin substance is not a very convincing means of settling the problem. It is quite probable that the chromaffin substance and the adrenalin content run parallel, and there are observations in support of this view, but it would be much more satisfactory to make direct estimations of the quantity of adrenalin in the blood and in the suprarenal glands in cases of shock. For this purpose I have devised an *adrenalinoscope*, which is a further advance on a method already used by Douglas Cow and also by O. B. Meyer.[22]

The Author's Adrenalinoscope.

A rabbit is killed by a blow on the head, and the thoracic aorta rapidly dissected out. With fine sharp scissors a spiral strip of aorta is cut about a quarter of an inch wide from the whole length of the aorta. We thus obtain a strip about three inches long, in which the circular muscle of the aorta is running longitudinally, so that a vaso-constrictor drug will induce shortening. One end of the spiral is transfixed on a hook secured in a cork at the bottom of a vertical glass cylinder, and the upper end is connected by a thread with a long lever recording its movements on a smoked drum. The spiral is, of course, stretched straight by the weight of the lever. The glass cylinder contains warm normal saline, which can be drawn off through a tube with stopcock in the cork at the bottom, and replaced by running in the test fluid gently down the side of the cylinder containing the strip of aorta. If any appreciable quantity of adrenalin is present, the distant point of the writing lever will rise within a minute or two, and then fall again a few minutes later. It is difficult to avoid a very steady fall of the point of the lever from stretching of the aorta, but this does not interfere with the reaction. (See Figure.)



Sketch of the author's adrenalinoscope.

This adrenalinoscope is extraordinarily delicate, and will show an appreciable contraction with as little as 1 in 500 million of Parke, Davis, and Co.'s adrenalin (i.e., 1 in 500,000 of their solution, which is 1 in 1000). I have used this method, first, to find whether there is any evidence that the blood is flooded with adrenalin during a surgical operation; and second, to estimate the relative quantity of adrenalin left in the suprarenal glands after death from shock. In two cases, which were the same as those numbered 8 and 9 amongst the specific gravity estimations, a hypodermic syringeful of oxalated blood was withdrawn from a vein towards the end of the operation, and diluted with sufficient saline to fill the glass cylinder containing the spiral strip. In neither case was any adrenalin contraction recorded.

It may be objected that there would not be sufficient adrenalin in the circulating blood of the patient to react even to so delicate an adrenalinoscope as one detecting 1 in 500 million, but calculating from the supposed quantity in the human suprarenals, 5 milligrammes according to Battelli,[23] it is difficult to believe that the glands could be exhausted in an hour or two and yet the amount in the blood escaped recognition.

More convincing, perhaps, are observations on the suprarenal glands of patients dying from shock. These were removed as soon as possible after death (from 6 to 24 hours), packed and transported in ice, cut open in 15 c.c. of normal saline, and the medullas thoroughly scraped out. Various dilutions in normal saline were then tested in the adrenalinoscope to determine the highest dilution giving a definite rise of the lever. Thus in Case A, strong solution of the suprarenal extract in saline, great rise of lever; 2 drops of suprarenal extract in 50 c.c. saline, 12 mm. rise; 2 drops of suprarenal extract in 500 c.c. saline, 1 mm. rise; and weaker solutions of the suprarenal extract, no rise. The results in four cases of death from shock and three control cases are set out in Table III.:—

TABLE III.—*Examination of Suprarenal Glands for Adrenalin after Death from Shock and in Control Cases. Medulla of both Suprarenals Extracted in 15 c.c. of Normal Saline.*

		Highest dilution causing contraction
	I.—*Shock Cases.*	
A	Male, aged 46. Nephrectomy for enlarged kidney, nature doubtful. At necropsy second kidney found not functioning. Died 4 hours after operation	1 in 4250
B.	Woman, aged 43. Wertheim's hysterectomy for cancer (= Case 10 in Table II.). Died 15 hours after operation	1 in 850
C.	Male, aged 53. Fell from ladder Fractured pelvis, fractured humerus, retroperitoneal hæmatoma. Died 2½ hours after fall	1 in 850
D.	Female, aged 65. Knocked down by taxicab and died 4½ hours later. Necropsy showed fractured pelvis and sternum	1 in 6000
	II.—*Control Cases.*	
E.	Male, aged 40. Symptoms of chronic heart failure. Syphilitic aortitis and myocardial degeneration	1 in 850
F.	Female, aged 46. Acute uræmia. Contracted granular kidney. Ill about a week. Blood pressure 240	1 in 4250
G.	Male, aged 33. Acute miliary tuberculosis	1 in 4250

It is a curious coincidence that all but one of the cases should chance to fall into two groups of dilutions.

It is quite clear from the analyses that adrenalin exhaustion is not the significant factor in the causation of shock. The suprarenals are by no means exhausted. In two cases the adrenalin was as high as, or higher than, in the controls. According to Cevidalli and Leoncini,[24] the adrenalin content. measured by a colorimetric test, is low after a chronic illness. Anæsthetics are said not to affect it.

WHAT, THEN, IS THE NATURE OF SURGICAL SHOCK?

We have failed to discover any evidence that changes in the blood are the essential factor in the production of surgical shock, and are left face to face again with the crucial problem, how to find an explanation for a falling blood pressure with a normal heart and vaso-motor centre and contracted peripheral arteries. Since the examination of the blood has not helped us, we must return to the *central nervous system*.

There is a condition well known to experimental physiologists called *spinal shock*. In monkeys, and to a much less extent in cats and dogs, a high transection of the spinal cord is followed by grave interference with the functions of the cord distal to the section. For a period varying from hours to days no reflexes can be obtained, muscular tone is abolished, and the peripheral blood-vessels dilate. In human surgery we see the like condition in spinal concussion, in which, after a blow on the back, sensation, voluntary power of movement and reflexes may be abolished, but after a day or two are all restored to normal.

Professor Sherrington[25] has made some important investigations into the nature of spinal shock. In the first place, he shows that it only affects those segments of the cord distal to the lesion; thus, after an upper dorsal transection the cervical segments are not in shock. Secondly, he shows that after recovery has taken place a second transection—for instance, in the mid-dorsal region—will not reproduce the signs of spinal shock, proving that it was due to the withdrawal of influences descending from the brain or brain stem. Again, cutting across the mesencephalon, above the pons, does not induce spinal shock. Therefore the impulses preventing it must have come down from the region of the fourth ventricle. We also know that from this same region, and in particular from the central nuclei of the vestibular nerve, descend the impulses which give rise to excess of muscular tone. A transection of the mid-brain causes decerebrate rigidity of the limbs; a second transection below the medulla abolishes the excess of tone. On this subject the writings of Sherrington and of Thiele[26] may be consulted.

F. H. Pike,[27] of Columbia University, has lately published a very important research on spinal shock with particular reference to the blood pressure. He shows that there is a certain residual blood pressure, about 33 mm. of mercury, even after removal of the brain, provided that the cord is left intact, and that sensory stimuli will raise this pressure reflexly. When the cord is totally removed there is a very great fall of pressure. Apart from removal of the cord, curare produces a considerable reduction of blood pressure, both in normal and in spinal animals. This curare effect is not due to any action on the vessels, but to the abolition of tone of the voluntary muscles. This is in accord with the results of other workers.

Do we not here find a clue to our problem? We turn back to the very first sentence of Sir Watson Cheyne's classical description of shock, and read, "The patient who is suffering from shock is usually found lying in a state of complete muscular relaxation." And, later, "the reflexes are very slight." Loss of tone in the voluntary muscles, in the abdominal wall especially, allows great dilatation of the veins, and here, as Crile observed in his experimental animals, the blood accumulates. Therefore the blood pressure falls and the cardiac output is reduced, in spite of undiminished power of the heart muscle and contracted arteries.

We must draw attention to the very significant fact that although the intramuscular and abdominal veins are dilated in shock, this cannot be due to some universal veno-dilator effect, because, as anyone who has had to perform intravenous transfusion on these cases will bear witness, the subcutaneous veins are smaller than normal. It may be objected that muscular tone is reduced in various nervous diseases and under anæsthetics without a marked fall of blood pressure, but it has to be remembered that in the nervous affections the onset is very gradual and can be compensated, and with anæsthetics there is stimulation of the heart and vaso-motor centre to counteract the loss of tone. Under ether, at any rate, the muscles may be very vigorous, as rigidity of the abdominal wall frequently reminds us. Chloroform, of course, does reduce the blood pressure after a time.

Without venturing to formulate a cut-and-dried theory, then, one may suggest that the nociceptive impulses which bring about surgical shock do so by inhibiting or paralysing the important nuclei in the region of the fourth ventricle and perhaps in the cerebellum, which, as Sherrington and others have shown, are continually sending impulses down the spinal cord, maintaining its functional activity and increasing muscular tone. When such inhibition or paralysis takes place the functions of the cord are greatly reduced, tone is abolished, and therefore, as a secondary result, the blood pressure may fall. The respiratory centre, and perhaps even the vaso-motor centre, share in this inhibition or paralysis; this is a very different conception from that which takes exhaustion of the vaso-motor centre to be the prime cause of all the symptoms. Death is due to accumulation of blood in the great veins, so that the *vis a tergo* is no longer able to provide a proper filling for the heart, especially as the feeble respiratory movements fail to exert their important pumping action.

A very striking example of this sequence is met with in what is called "the knock-out blow" in pugilism, or rather, one of such blows. A vigorous drive on the point of the lower jaw in a line from the chin to the condyles is transmitted directly to the labyrinth of the internal ear, and by way of the vestibular nerve impulses reach the nuclei of which we have been speaking. As a result a powerful athlete is immediately reduced to a mass of quivering, unstrung flesh, and may die outright. In a word, he is in a state of shock.

Perhaps it may be found possible to localise with accuracy the nuclei which are principally affected in surgical shock by histological examination for chromatolysis. Dolley and Crile have published very remarkable observations on changes in the nerve-cells in shocked or hunted animals, showing dissipation of the Nissl granules. These changes were best marked, not in the vaso-motor centre as Crile's theory would demand, but in the Purkinje cells of the cerebellum. Tyrrell Gray and Parsons found changes in the cuneate and gracile nuclei of the medulla.

I have so far had the opportunity of examining the brain of only one case by this laborious method, and therefore must express conclusions with all reserve. The patient was a healthy man who died 2½ hours after a fall from a ladder which caused a fractured pelvis, fractured humerus, and retroperitoneal hæmatoma (Table III., Case C). The brain-stem and cerebellum were removed, hardened in formalin, sectioned with the freezing microtome, and stained by Nissl's method. The examination of a number of sections showed the following changes. Purkinje cells of cerebellum: All full of Nissl granules. No abnormal cells found in some hundreds examined. Cells of dentate nucleus of cerebellum: Practically all normal. Cells of various motor nuclei in medulla: All normal. Cells of inferior olive: The majority normal. A few showed reduction of Nissl granules. Cells of Deiters' nucleus (lateral vestibular): Some normal cells; majority showed considerable reduction of the granules, and many cells had practically none left. Cells of gracile and cuneate nuclei: Very remarkable absence of Nissl granules. Scarcely a granule to be found in the whole nucleus. We know that reduction of the Nissl granules is usually an evidence of exhaustion of nerve-cells, but it must distinctly be understood that we have no evidence that if a nerve cell is paralysed it must necessarily show histological changes, and absence of chromatolysis would not therefore prove that certain nuclei were able to function properly.

THE DIAGNOSIS, TREATMENT, AND PREVENTION OF SHOCK.

It must regretfully be admited that such a conception of shock makes diagnosis and treatment much more difficult. And first, *diagnosis* is difficult, because we may no longer place implicit reliance upon the blood pressure. No doubt a fall of pressure is our best sign of shock, but it ceases to be infallible. For instance, crushing the testis may induce a reflex depression through the vasomotor centre, which is perfectly recoverable without any other signs of shock. Again, and surely we have all learned only too well the truth of this, a patient may be far worse than the pulse and pressure would lead one to think. A diagnosis of shock nowadays must take into account the whole clinical picture described by Sir Watson Cheyne, as well as the readings of the sphygmomanometer.

In the *treatment* of shock, the failure of the simpler theories leaves us sadly bereft of our weapons for meeting it. It was so easy to give pituitary extract for paralysed vaso-motors, carbon dioxide for acapnia, intravenous or subcutaneous saline for oligæmia, and adrenalin injections for exhaustion of the suprarenals, and so hard to understand why they might one and all fail. But what can one do for paralysis of the nerve-cells of all the vital centres? Evidently it is not enough merely to raise the blood pressure, although that may help a little by driving more blood to the brain, and so give the damaged nerve-cells the most favourable conditions for recovery. Saline transfusion or infusion has its value in maintaining the output of the heart. Recently the use of sodium bicarbonate instead of chloride has been advocated by several American writers on experimental grounds, though they find it hard to give a satisfactory explanation of its action.

It is doubtful if pituitary extract or adrenalin do any good, and Crile's teaching as to the futility of strychnine and alcohol is probably correct. Happily it is possible, to some extent, to exert pressure on the dilated veins, and so replace the deficient muscular tone by means of elastic bandages for the limbs and abdomen, taking care not to impede the action of the diaphragm. Intraperitoneal saline fluid in large quantity would help in the same way. In cases of shock from burns the indications for introducing plenty of saline are clear.

It is to the *prevention* of shock that we must look with hope and some degree of confidence for the future. No doubt Professor Crile's anoci-association methods are on the right lines, but to use his native country's expression, he has not quite "got there" yet. For instance, Case 10 in Table II. died from severe and typical shock in spite of a long time spent in thoroughly injecting the abdominal wall with novocain and the peritoneal surfaces with quinine-urea-HCl before cutting. Moreover, quinine-urea-HCl is destructive to the tissues, and we urgently require a drug which will be long-lasting in its effect without causing necrosis. On the other hand, in some of the writer's own abdominal cases it has worked like a charm, abolishing both shock and after-discomfort. The method is novel and can probably be improved in its details, and in blocking the up-paths of painful stimuli, as far as we can now see, lies the hope of the future. That problem once solved, we should be able to operate on desperate cases without that fear of death on the table or within a day or two which at present forms the barrier against the emancipation of surgery to do its beneficent work unhindered.

The present lecture is as a scout sent forth to survey the barrier, and a scout's difficult ambition is to tell a tale which the future will prove true.

My very best thanks are due to my surgical colleagues at the Bristol Royal Infirmary for allowing me to make use of their cases, also to Professor A. F. Stanley Kent, Dr. J. R. Kay-Mouat, Mr. G. Scott Williamson, and Mr. Scott White for kind help. The expenses of the research were assisted by the University of Bristol Colston Research Fund.

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CHILDREN'S HOME AT EXETER.—On Feb. 23rd the new home which the Exeter board of guardians have erected for children who were formerly resident in the workhouse was formally opened. The building is situated close to the workhouse at Heavitree, but quite separate from that institution. The cost is about £6500, and it will provide accommodation for 30 girls and 41 boys, with rooms for four attendants.

THE AGGLUTINATION OF M. MELITENSIS BY NORMAL COWS' MILK.[1]

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THE fact that the milk from cows in London is in some cases able to cause agglutination of the M. melitensis has lately been brought forward by Kennedy. He found a positive reaction with the milk of 3 out of 22 cows, and 5 times from mixed milks. The reaction was also obtained when using whey, but was diminished or altogether lost by filtering the milk through a Berkefeld or Doulton candle.

Anomalous reactions have frequently been described when examining goats' milk. In Malta Martel, Tannon, and Cretien state that as a means of diagnosis it is unreliable. In Algiers and Tunis in the laboratories of Sergent and Nicolle the importance of these lacto-reactions is highly rated, and Zammit carries out a very large number daily at Malta. Cows in the endemic area have been frequently noted by means of lacto-reactions as being infected, but I think no one depends upon it wholly for diagnosis.

It appears to be of the utmost importance to recognise *that the reaction is a specific one,* and that by its means an enormous amount of public health work for prevention of the spread of undulant fever is possible. It therefore renders it necessary to find out what error of technique has been committed to give rise to these misleading results. For two months I have been testing milks with this object without much success, but some of the reactions are so unexpected that I have ventured to bring them forward.

I first tested 16 samples of milk from separate cows with five different strains of M. melitensis at 1 in 2 dilution both microscopically and by sedimentation. Some strains were found to agglutinate much more easily than others. The type strain originally obtained from Wright at Netley acted best, the emulsion being made from a culture not more than 48 hours old. This was always controlled by specimens without serum, with normal serum, and with immune serum. A further series of samples from 21 other cows was obtained from two farms near. Besides these, 32 samples of mixed milks obtained from different dairies have been tested. A total of 69 samples.

I found that boiling the milk cut out all the reactions; that heating it to 60° C. for half an hour cut out some, but not all. That with the unheated milk of 37 individual cows—tested with equal parts of emulsion made with normal saline solution—3 reacted in ½ hour, 6 in 1 hour, and 6 by sedimentation; these were reduced to 2, 4, and 5 by heating the milk. (Table I.) In dilution of 1 in 20 of milk direct from the 21 cows I did not get any positive reactions either microscopically in 1 hour or by sedimentation with heated or unheated samples.

Of 32 samples of mixed unheated milks tested with equal parts of emulsion made with saline solution, 5 gave positive reactions in ½ hour microscopically and 11 by sedimentation. In dilution of

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[1] Published by permission of the Medical Director-General of the Royal Navy.

1 in 20 there were 9 positives in one hour and 11 by sedimentation. (Table II.)

I noticed that frequently with the mixed milks the reaction was more strongly marked in those that were diluted to 1 in 20 than in the low dilutions. I thought that it might be the diluting fluid at fault. Similar specimens were therefore put up with saline and distilled water, and examined microscopically and macroscopically with heated and unheated milks at 1 in 2 and 1 in 20 dilutions. 32 mixed samples were thus tested and the reduction of the positive reactions with the distilled water was very marked—12 to 4, both emulsions agglutinating well the immune serum control. With the 1 in 20 dilution of milk the positives were reduced from 11 to a doubtful 3. The highest reaction obtained was 1 in 100 with mixed milk, which did not rise higher than 1 in 20 with water dilution.

TABLE I.—*Milk from Individual Cows in London.*

1 in 2 dilution.

No.	Unheated.						Heated.					
	Saline solution.			H_2O			Saline solution.			H_2O		
	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.
1	—	+	+	—	—	—	—	+	+	—	—	—
2	—	+	+	—	—	—	—	—	+	—	—	—
3	—	—	+	—	—	—	—	—	—	—	—	—
4–16	—	—	—	—	—	—	—	—	—	—	—	—
17	+	+	+	+	+	+	+	+	+	+	+	—
18	+	+	+	+	+	+	+	+	+	+	+	—
19	+	+	—	—	—	—	—	—	—	—	—	—
20–26	—	—	—	—	—	—	—	—	—	—	—	—
27	—	+	+	—	+	+	—	+	+	—	+	—
28–31	—	—	—	—	—	—	—	—	—	—	—	—
32–37	—	—	—	—	—	—	—	—	—	—	—	—
	3	6	6	2	3	3	2	4	5	2	3	0

1 in 20 dilution.

17–27	—	—	—	—	—	—	—	—	—	—	—	—
29–37	—	—	—	—	—	—	—	—	—	—	—	—

TABLE II.—*Mixed Milk from Different Dairies in London.*

No.	1 in 2 dilution.						1 in 20 dilution.					
	Saline solution.			H_2O.			Saline solution.			H_2O.		
	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.
1	—	+	+	—	—	—	—	+	+	—	—	±
2	+	+	+	—	—	+	—	+	+	—	—	—
3	+	+	+	—	—	—	+	+	+	—	—	—
4	—	—	—	—	—	—	+	+	+	—	—	—
5	—	+	+	—	—	—	—	+	+	—	—	—
6	+	+	+	—	—	+	—	+	+	—	—	—
7	—	+	+	—	—	+	—	+	+	—	—	+
8	—	+	—	—	+	—	—	—	—	—	—	—
9	—	+	—	—	—	—	—	—	+	—	—	—
10	—	+	+	—	+	—	—	—	+	—	—	—
11	—	+	+	—	—	—	—	—	—	—	—	—
12	—	+	+	—	—	—	—	—	—	—	—	—
13	—	—	+	—	—	—	—	—	—	—	—	—
14	—	—	—	—	—	—	—	—	—	—	—	—
15	—	—	—	—	—	—	—	—	—	—	—	—
16	—	—	—	—	—	—	—	—	—	—	—	—
17	—	—	—	—	—	—	—	—	—	—	—	—
18–22	—	—	—	—	—	—	—	—	—	—	—	—
23	+	+	+	—	—	—	+	+	+	—	—	—
24	+	+	+	—	—	+	+	+	+	—	+	+
25–32	—	—	—	—	—	—	—	—	—	—	—	—
—	5	13	12	0	2	4	4	9	11	0	1	3

Heating cut out reactions of Nos. 23 and 24.

Nos. 7 and 23 agglutinated with saline solution up to 1 in 100 and up to 1 in 20 with HO_2

When the milk is kept the reactions may quickly change, as shown in Table III. A sample of unheated milk taken direct from a cow gave complete negative reactions to all the tests, but 38 hours after the dilutions with saline were all positive up to 1 in 20, but still remained negative with the water dilutions. Heated samples gave complete positive reactions after that time.

TABLE III.—*Milk Direct from Cow No. 4.*

First day: Unheated.

—	Saline solution.			H_2O.		
Dilution.	½ hour.	1 hour.	Sed.	½ hour.	1 hour	Sed.
1 in 2	—	—	—	—	—	—
1 ,, 20	—	—	—	—	—	—
First day: Heated.						
1 ,, 2	—	—	—?	—	—	—
1 ,, 20	—	—	—	—	—	—
Second day: Unheated.						
1 ,, 2	+	+	+	—	—	—
1 ,, 20	+	+	+	—	—	—
Second day: Heated.						
1 ,, '20	-	+	+	-	+	+

Showing change in reaction for time.

Five samples from individual cows which had given positive reactions in low dilutions were plated out for isolation of M. melitensis but without success. I was unable to obtain a sample of serum for testing, but all the cows were stated to be in perfect health.

In Malta the milk is tested direct in a dilution of 1 in 20, using saline solution, and observing by the sedimentation method only. In the last return 50 per cent. of the goats so tested gave a positive reaction, which is possibly too high, but the result is always controlled by a serum reaction before the animal is considered to be infected. In Algiers and Tunis a dilution of 1 in 30 is used, the specimen being examined both microscopically and by sedimentation methods for six hours.

Result.—Using a 48 hours' culture for the emulsion and a dilution of 1 in 20 in this series, none of the milk from 21 cows gave a positive reaction when examined quite fresh, but with mixed samples of milk a high proportion reacted positively at this dilution, most of which were cut out by using heated milk and diluting with distilled water instead of saline solution. In any case it is very necessary to centrifuge the milk very thoroughly and to examine it at once, using an emulsion made from the M. melitensis not more than 48 hours old, and even then a few errors will occur by false clumps in the sedimentation tubes carrying down micrococci with them.

There is no doubt that cows' milk in some cases has a natural tendency to agglutinate the M. melitensis, but if care is taken most of these non-specific reactions may be avoided. The reaction always requires to be controlled by other methods of diagnosis before an animal can be considered to be infected.

A CASE OF TRANSGASTRIC EXCISION OF A GASTRO-JEJUNAL ULCER.

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AND
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THE operative treatment of a peptic jejunal or gastro-jejunal ulcer following a gastro-enterostomy is beset with many technical difficulties. This is notably true in cases where the original anastomosis has been of the posterior no-loop variety, and where in consequence the ulcer is somewhat inaccessible.

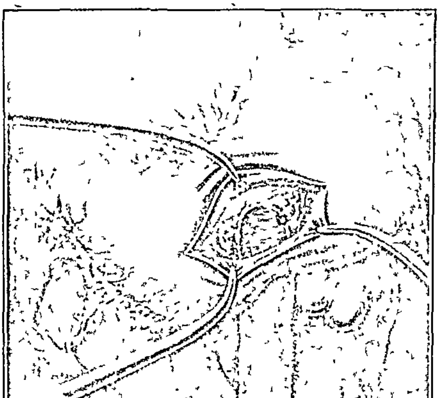
The usual procedure in operating for this type of ulcer is to resect the whole of the jejunal length engaged in the anastomosis, and also the adjacent portion of the stomach; and after this to make a new junction between the stomach and the jejunum. It is obvious that in a case where a posterior no-loop operation has been performed this resection of the entire anastomosis is exceedingly difficult, often indeed impossible; and even in the cases where it *is* possible a modified anterior Roux operation in "Y" has usually to be performed after the resection, the making of a second posterior anastomosis being an impossibility.

The method of transgastric resection for such cases of jejunal ulcer was suggested by Moynihan[1] in 1912, but the operation was not performed by him previously to this operation, the notes of which are given below, nor are we aware of any other surgeon having recorded a similar case.

The patient, a male aged 47, had a history of abdominal trouble extending over seven years. At the commencement his only symptom was epigastric pain on kneeling, on leaning forward, in fact, after any movement which caused contraction of his recti abdominis. Gradually this pain became more severe, occurring at almost regular intervals, independently of movement, and accompanied by flatulence and hyperacidity. The pain was of the variety known as "hunger pain," commencing from two to three hours after meals, and being relieved by lying down or taking food. There was never any vomiting. The site of the pain was above and to the right of the umbilicus. At first this pain was only felt at intervals; gradually, however, the intervals became shorter and the periods of pain longer. After three and a half years of this the patient had a sudden attack of severe abdominal pain in the right hypochondrium, which was diagnosed as a subacute perforation; from this attack he recovered without operation. In January, 1912, a posterior gastro-enterostomy was performed by another surgeon. The patient recovered from this operation, and his symptoms subsided only to return about eight months later. The pain after this was lower in the abdomen and more to the left than previously, and was really the only symptom he had; but this pain was severe in character, and for the last few weeks before admission to the nursing home almost constant in duration.

Dr. L. A. Rowden's X ray report was as follows:—"The bismuth feed passes freely through the œsophagus. The stomach is not dilated. The outline is regular except for an indentation about the middle of the greater curvature. Peristalsis is seen, *but it is not excessive. The gastro-enterostomy opening is patent; as far as I can judge about two-*thirds of the food passes through it and about one-third through the pylorus. The stomach is empty two hours after the meal. No food lodges in the duodenum nor is there any duodenal kinking. The small intestine is empty in 12 hours. No stasis. No ileal kink. In 24 hours almost all the bismuth has been passed per rectum. I have seen no abnormality in the large intestine. There is no X ray evidence of calculus in either kidney, in the ureters, or in the bladder."

On Jan. 7th, 1914, the abdomen was reopened by Sir Berkeley Moynihan and the notes which follow are by Dr. Tatlow, who assisted at the operation. The scar of the previous operation was excised and for the deeper portions of the incision Crile's anæsthesia was adopted. The transverse colon, which presented in the wound, was markedly hypertrophied and distended and also kinked in a very curious fashion—its middle portion being adherent to the under surface of the left lobe of the liver and to the diaphragm. Before the stomach could be examined it was necessary to separate the adhesions fixing the colon in this unusual position. This separation was exceedingly difficult owing to the inaccessibility of the parts. The stomach itself was normal in outline, but there was a scar of an old ulcer on the anterior surface of the first stage of the duodenum. The anastomosis which had been performed was a posterior, vertical, no-loop gastro enterostomy. The stoma was of adequate size and in the correct position. On feeling the stoma with the finger a



Transgastric excision of a gastro-jejunal ulcer following gastro-enterostomy.

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[1] Duodenal Ulcer, 1912, p. 204.

hard nodule the size of a shilling, with a dimple in its centre, could be detected. This nodule, which was thought to be a gastro-jejunal ulcer, could be clearly palpated through the anterior wall of the stomach. In view of the technical perfectness of the original operation and the consequent difficulty of a local resection (posterior) it was decided that a transgastric excision of the ulcer would be a safer operation than an excision of the entire anastomosis. Accordingly, while the assistant passed two fingers, one on either side of the jejunal loop so as to grip the ulcer, a longitudinal incision was made through the anterior wall of the stomach parallel to the curvatures and midway between them. On opening the stomach the posterior wall was everted through the incision, thus bringing the gastro-jejunal ulcer into view. The ulcer was almost entirely gastric, being just on the edge of the stoma. On opening the stomach a piece of silk (? or linen thread) was found hanging loose from the region of the ulcer. Excision was performed with scissors, and the opening made in the posterior wall of the stomach closed with through-and-through sutures passed from the mucosa. The anterior incision was then closed, leaving only room for a No. 14 rubber catheter, which was passed into the stomach and along the efferent jejunal loop. After the closure of the anterior incision a few interrupted Lembert sutures were passed posteriorly in the region of the original anastomosis to make things quite snug; the abdomen was then closed, leaving the catheter *in situ*. The patient was given four ounces of peptonised milk through the gastrostomy tube before leaving the table.

The patient made an uneventful recovery from this operation. On the twenty-first day the gastrostostomy (or gastro-jejunostomy) tube was removed and feeding by the mouth commenced. Ten days later the patient left the nursing home in excellent health and enjoying a light white meat diet.

Leeds.

THE TECHNIQUE OF THE WASSERMANN REACTION,

WITH SPECIAL REFERENCE TO THE USE OF ANTIGENS CONTAINING CHOLESTERIN.

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THE Wassermann reaction has now come to occupy a recognised place as one of the most accurate diagnostic methods available in medicine. But this estimate of its value can be substantiated only when the test is carried out under adequately controlled conditions. Hence, any contribution to our knowledge of the reaction which will lead to an increase in delicacy and precision must be welcomed. A great variety of procedures have been introduced, each making more or less serious claim to be an improvement on or a simplification of the original reaction. Certain methods are admitted to yield too high a percentage of positives, and these to any logical mind must be completely disregarded so far as their employment for diagnostic purposes is concerned; it is obvious that any form of the test which is liable to return positive reactions in cases which are not syphilitic is useless for diagnosis, however valuable such a method may be as an indication for the continuance of treatment in known cases of syphilis.

It is unnecessary to enter here into a discussion of the nature of the reaction, since nothing is accurately known concerning this question beyond the fundamental fact that a mixture of syphilitic serum and an emulsion of certain so-called "lipoid" constituents of animal tissues (the syphilitic "antigen") has the property of abolishing the complementing action of serum (from the guinea-pig), whereas a mixture of normal serum with the same "lipoid" emulsion possesses this action on complement to a much smaller degree. It is to be noted that, so far as we are aware at present, there is *no qualitative difference* between normal and syphilitic sera in their behaviour in the Wassermann test, but merely a quantitative difference. Such being the case, it is obvious that the limit of reacting power which differentiates a positive serum from a negative one must be arbitrary, and requires to be fixed by experiment for any given combination of "antigen" and serum. The standard is determined by examining a large number of sera from conditions which are known to yield positive reactions in most cases—e.g., general paralysis or secondary syphilis, and also sera from known non-syphilitics. When the results have been obtained in an extensive series of tests of this kind it is then possible to fix the limit of reacting power which a serum must reach in order to be counted positive, or below which a serum must fall in order to be recorded as negative. The validity of this method of fixing the criterion of the reaction is determined by the fact that sera from a known syphilitic condition such as general paralysis or cases in the secondary stage present all degrees of reacting power, and there is no necessary correlation between the clinical severity of the syphilitic infection in two cases and the grade of positiveness of their sera. Thus, Muir aptly says: "There will accordingly always be a certain proportion of cases which are almost positive, as well as those which are clearly so," and it is only by carrying out the reaction under strictly quantitative conditions, where the amount of complement (estimated in hæmolytic doses) which is absorbed by a given mixture of serum and of "antigen" is measured and controlled by comparison with the amounts fixed by each reagent separately, that conclusive results can be obtained.

Any method of carrying out the Wassermann test which is to be satisfactory must detect the greatest possible proportion of syphilitics, and at the same time must not include as positive any non-syphilitic sera. It is probable that a variety of procedures have been devised by different conscientious workers so as to fulfil those requirements. A method of carrying out the test described originally by Browning, Cruickshank, and McKenzie[1] has been extensively employed by nearly a dozen different workers in connexion with the Pathological Laboratory of the University and Western Infirmary, Glasgow, during the past three years, and the investigation of upwards of 3000 cases has yielded important clinical results, a *résumé* of which was recently published by me.[2]

One feature of our method of carrying out the test depends on the use of an "antigen" containing ox-liver "lecithin" along with cholesterin. The remarkable effect of cholesterin in increasing the action of "lecithin" as syphilitic "antigen" was first of all drawn attention to by Browning, Cruickshank, and McKenzie, and has since been confirmed by Sachs,[3] McIntosh and Fildes,[4] Walker and Swift,[5] and others, and "antigens" containing cholesterin have now come into very general use. Before our procedure was employed here for routine diagnostic purposes Gilmour[6] established the reliability of the method by the examination of 150 sera, about half of which were from cases of general paralysis, employing the lecithin-cholesterin "antigen" simultaneously in parallel series with a crude alcoholic tissue extract. The reliability and delicacy of the method has also been confirmed by Miss Muirhead,[7] and recently Watson (*v.* Browning[4]) has again confirmed the accuracy of the method by a very critical and extensive examination. In view of the great mass of evidence in support of the value of "antigens" containing cholesterin it is surprising that Thiele and Embleton[8] have recently come to the conclusion that "the use of cholesterin .... in antigens for the Wassermann reaction is not only unnecessary but introduces a very serious source of error." Such a statement cannot at the present time be allowed to pass unchallenged, since if it were correct it would discredit the value of all the work done by such methods.

Thiele and Embleton have entered in some detail into the conditions under which a suitable antigen is obtained from tissues, and they conclude that "the antigenic value of an antigen depends on the degree of autolytic degradation that it has undergone before extraction." This may be taken as correct; Citron,[9] writing in 1909, considered that the extract of syphilitic liver was enhanced in efficiency if autolysis had occurred beforehand, and Browning and McKenzie[10] record their observation regarding a congenital syphilitic liver containing spirochætes, but without any fatty or autolytic change. They found that this syphilitic fœtal liver yielded an extract in no way superior in its action as syphilitic "antigen" to that from a normal guinea-pig's liver. In the case of normal tissues Cruickshank (*v.* Browning and McKenzie[10]) found that, in general, organs which had undergone aseptic autolysis yielded extracts which had a very powerful antigenic action, but the extracts of such autolysed tissues by themselves exert an active hæmolytic and anticomplementary effect, so that their use may be attended by numerous disadvantages (*v.* Browning and McKenzie[10]) which render them of little value practically.

The action of "purified" phosphatids as syphilitic antigens has been recently investigated by Thiele and Embleton, who state that "all the phosphatids can act as good antigens provided they are extracted from suitably autolysed tissues." In this connexion it must be remembered that the preparation of a *pure* phosphatid is a matter of remarkable difficulty, as especially Cruickshank[12] and MacLean[13] have shown, and there is some reason for doubting whether a pure phosphatid has ever been prepared. Investigating the action of "lecithins" (so-called N_1P_1 phosphatids) prepared under precisely comparable conditions from various tissues in the normal fresh state, Browning, Cruickshank, and Gilmour,[14] however, have shown that the a [illegible] lepends to a very great [illegible] tissue from which the [illegible] the product from egg [illegible] n, that from heart is extremely powerful, while liver yields a substance of intermediate activity.

With regard to the effect of cholesterin in an antigen, it must be remembered that practically all tissues contain this substance, and in the liver in cases of congenital syphilis Pighini[11] has found that cholesterin is often present in excess. Thiele and Embleton, however, do not appear to object to the use of extracts of congenital syphilitic liver as antigen.

Cholesterin it[illegible] action as Pigh[illegible] Browning and [illegible] a watery colloidal solution of cholesterin to human serum the mixture sometimes exhibited a greater inhibitory action towards complement than did the cholesterin solution by itself; this is the phenomenon to which, apparently, Thiele and Embleton have now applied the term "anticomplementary adjuvant phenomenon," but occasionally serum has the opposite effect and diminishes the anticomplement action of the cholesterin. Browning and Cruickshank recognised that the action on complement of a mixture of serum with cholesterin alone was irregular and possessed no diagnostic significance as regards syphilis.

The action of cholesterin along with "lecithin" is quite different, however. When an alcoholic mixture of "lecithin" and cholesterin is emulsified with physiological salt solution in such a fashion as to give a turbid suspension (*v.* Browning and McKenzie[10]), it is found that the anticomplement effect of the cholesterin is abolished; such a suspension has, in fact, practically no more inhibitory action on complement than a similar emulsion of the same "lecithin" by itself. The striking fact, however, emerges that the lecithin-cholesterin emulsion along with syphilitic serum absorbs more complement than does the mixture of serum and lecithin in the absence of cholesterin. Further, this effect of cholesterin in increasing the amount of complement absorbed by serum occurs only when the serum is syphilitic. Obviously, we are not here dealing with a mere summation of effects; hence this phenomenon serves as a specific indication that the serum under examination is syphilitic. Especially in the case of weakly positive sera, this reaction constitutes a valuable addition to the ordinary criterion for detecting a positive reaction (i.e., measuring the number of doses of complement absorbed by the mixture of serum and "antigen" as compared with the sum of the amounts inhibited by each constituent separately). An example, one of many hundred similar experiments, is appended (see p. 742) in confirmation of previous results.

In view of these facts the statement of Thiele and Embleton that "cholesterin merely magnifies any anticomplementary effect whether already present or induced by the Wassermann reaction," either possesses no exact meaning whatever, or, if it is intended to convey the impression that cholesterin merely produces an increased anticomplement effect in every instance, then the authors are demonstrably wrong so far as the conditions are concerned under which we have employed cholesterin in the Wassermann reaction.

There is a grave error into which a certain attitude of mind leads some observers; they generalise from the results of a single type of experiment, and without hesitation condemn a long series of carefully planned and adequately controlled observations. A comprehensive knowledge of experimental work in the domain of immunity should guard against such rash generalisation. As an example of the necessity for avoiding generalisation I would quote the following example: Thiele and Embleton find that the delicacy of the Wassermann reaction is increased in their hands when they use large amounts, half a cubic centimetre or more

Table illustrating the Effect of Antigens containing Cholesterin.

Serum (55° C. for ½ hour) 0·05 c.c.	Turbid emulsion of antigen 0·6 c.c. (a) Ox-liver lecithin 0·75 per cent. in absolute alcohol, 1 part emulsified with saline 7 parts. (b) Ox-liver lecithin 0·75 per cent. + cholesterin 1 per cent. in absolute alcohol, 1 part emulsified with saline 7 parts.	Doses of guinea-pig's complement.				
		3½	5	8	11	16
A.—Medium strength positive serum.	(a) + Lecithin.	Trace.	Very marked.	Almost complete.	—	—
	(b) + Lecithin-cholesterin.	0	0	0	Faint trace.	Almost complete.
B.—Powerful positive serum.	(a) + Lecithin.	0	0	Trace.	—	—
	(b) + Lecithin-cholesterin.	0	0	0	0	0
C.—Negative serum.	(a) + Lecithin.	Just complete.	Complete.	Complete.	—	—
	(b) + Lecithin-cholesterin.	,, ,,	,,	,,	Complete.	Complete.

Controls—

Emulsions alone, 0·6 c.c. (a) Lecithin + 3 doses of complement = just complete.
(b) Lecithin-cholesterin + 3 ,, ,, = ,, ,,
Sera alone 0·05 c.c. + 0·6 c.c. saline Serum A + 1⅓ ,, ,, = complete.
,, B + 1⅓ ,, ,, = ,,
,, C + 1⅓ ,, ,, = almost complete.
Dose of complement = 0·015 c.c.

Note.—The results indicate the amount of hæmolysis of 1 c.c. 5 per cent. washed ox-blood suspension sensitised with 5 doses of immune body from the rabbit.

of inactivated syphilitic serum. Now, Gilmour, working according to the method of Browning, Cruickshank, and McKenzie (*v.* Browning and McKenzie,[10] p. 84), found that there were very definite disadvantages attendant on the use of such large amounts of serum, among which may be mentioned the marked inhibitory effect of such a quantity of heated serum by itself on complement.

To sum up. Accuracy and delicacy in performing the Wassermann reaction may be attained by attention to the following points:—

1. The accurate measurement of the amount of complement absorbed by the mixture of (heated) serum and of antigen, estimated in hæmolytic doses, and controlled by an estimation of the amount of complement inhibited by each component separately. To effect these estimations requires for each serum six or seven tubes in addition to three tubes to control the action of the lipoid emulsion. Such a procedure enables the observer to place the greatest confidence in his results, and it is to be regretted that some workers do not consider it worth their while as a routine practice to expend the time required to attain such accuracy.

2. No method can be satisfactory which neglects the fact that complement is not an invariable quantity. Not merely do different guinea-pigs yield serum with varying hæmolytic power for sensitised blood corpuscles, but the deviability of two complement-containing sera with the same hæmolytic dose may show a wide difference. Such differences in deviability of complement are observed both when sensitised ox and sheep corpuscles are used as the test. To control these variations known negative and positive sera, whose behaviour has been determined in previous tests, should be included in every series. An average specimen of complement can be obtained with some degree of certainty by using the pooled serum of several guinea-pigs. Recently we have employed the pooled sera of 10 or 12 animals, separated by centrifuging the switched blood immediately after withdrawal, and pipetting off the mixed serum into a series of small bottles which are then placed in a refrigerator and the contents kept frozen hard at minus 12° C. The serum required for a test is allowed to thaw and is then kept in the ice chest for about 16 hours before use. We have found that under these conditions the hæmolytic power and the deviability of serum remain practically unaltered for at least six weeks. This procedure seems to offer the best method for preserving for a considerable length of time a standard specimen of complement (Browning and Mackie[17]).

3. The test corpuscles should be sensitised to the maximal degree by the addition of at least five doses of specific immune serum (from the rabbit). In this way disturbances due to variations in the normal immune body content of the patient's serum or the complement-containing serum can be obviated.

4. The "antigen" should by itself possess little hæmolytic or anticomplement action, a point which Browning and McKenzie emphasise.[10] Antigens which are highly satisfactory in these and in other respects can be obtained by employing alcoholic mixtures of cholesterin with certain other tissue lipoids. The antigenic property of many lipoid tissue constituents—e.g., "lecithin" from heart and liver, crude alcoholic extracts of heart, &c.—can be increased by the addition of cholesterin to the alcoholic solution. In the case of "lecithin" from ox liver, personal experience has shown that the addition of cholesterin increases the power of the lipoid emulsion to lead to complement-fixation along with syphilitic serum. Along with normal serum, on the other hand, no such increase occurs, and at the same time the cholesterin does not increase the anticomplement effect of the lipoid emulsion by itself. Accordingly, cholesterin possesses a remarkable specific action in the presence of syphilitic sera together with certain tissue lipoids; this effect of cholesterin has proved of great practical value in eliciting the Wassermann reaction.

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Glasgow.

POPLITEAL ANEURYSM.

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POPLITEAL aneurysm, which 30 years ago was so frequently seen in our hospital wards, and the treatment of which by digital compression—the method then much in vogue—has left a lasting impression, is now comparatively a rare disease. A considerable revival of interest in the treatment of this lesion has been aroused by the introduction by Matas of his methods of dealing with the sac, which have been fully discussed recently in the Surgical Sections of the International Medical Congress and of the Royal Society of Medicine.

Whatever may be the method of treatment selected, the aim and object is the obliteration of the sac. Matas secures this obliteration by opening the sac and suturing from within the main vessels and the smaller feeding ones, afterwards suturing and doubling up the sac wall, or he adopts his more conservative measures devised to preserve the lumen of the vessel, at the same time obliterating the sac. These procedures, brilliant and successful as they have proved, will in dealing with popliteal aneurysm not easily supplant the older highly tried methods, and probably will have a more limited application. The Hunterian operation, with its simplicity of technique and very small percentage of permanent recurrent pulsation, will with many still hold the field. In those doubtful cases of threatened gangrene or with local inflammation about the sac, ligature, whatever may be the outcome, would probably without doubt still seem the best method to adopt.

The first case described below illustrates what that success may be under such unpromising conditions as were there present—a large sac, ill defined, with local inflammation and effusion into the knee-joint, and œdema of the leg below. There seemed so strong a probability of gangrene ensuing that amputation was seriously considered, which the patient, a man of fine physique, would not agree to. After consultation with my colleague, Mr. C. A. Ballance, it was decided to ligature the vessel and afterwards to deal locally with the aneurysm should success be attained, which fortunately was the sequel.

The second case is an example of the ideal and most certain method of obliterating the sac by excision, a procedure limited by the size of the aneurysm and the condition of the surrounding tissues. Exception has been taken to its employment for popliteal aneurysm because of the likelihood of damaging a possible adherent popliteal vein or the anastomosing vessels. If the aneursymal sac is of moderate size and apparently well defined, these difficulties may be non-existent or surmounted. For such cases this radical procedure has a place and may be used successfully.

CASE 1. *Left popliteal aneurysm; fluid in the joint; ligature of the superficial artery at the apex of Scarpa's triangle; later incision into the sac and removal of clot; recovery.*—The patient, a South African negro, aged 26, was admitted under me on Oct. 7th, 1911. Towards the end of 1909 he had tingling pain in the popliteal space, but of this he did not take very much notice. In October, 1910, he first noticed a lump here; this was thought to be due to rheumatism and he had massage. The swelling, however, gradually increased in size, and there was difficulty in straightening the leg and in walking about; owing to the severe pain for several weeks before, he sought admission. There was no history of syphilis, but thickening of the tibiæ strongly suggested it. In the left popliteal space was a very prominent pulsating swelling, the pulsation in which was effectually stopped by compressing the femoral. The leg below was generally swollen and the surface veins distended; there was some œdema around the ankle and also over the back of the knee-joint. The knee-joint contained fluid, and there was very limited extension of the leg; there was some dropping of the foot, and on inquiry his pain had been particularly referred to the external popliteal nerve area; there were also several large scars, not very deep, in the middle of the leg on the outer side. The heart and arteries were healthy. Over the most prominent part of the swelling the measurement was 19 inches; 6 inches above the knee 17 inches; and over the middle of the calf 15 inches.

The unsatisfactory condition of the limb raised considerable doubt as to the likelihood of saving it. The embarrassed return circulation and swelling behind the knee pointed to the strong probability of gangrene occurring should any other treatment but amputation be attempted. It was decided, however, to try to save the limb, so the superficial femoral artery was ligatured at the apex of Scarpa's triangle on Oct. 13th. After ligation in two places and dividing the vessel between it was noticed that there was little, if any, reduction in size of the aneurysm. On the next morning (14th) the limb was fairly warm, but no definite pulsation could be felt in the tibials; the patient complained of cramps. On the 16th the collateral circulation was well established; the limb was warm, and faint pulsation could be felt in the tibials, but the size of the aneurysm was not appreciably reduced, measuring 18½ inches. The subsequent progress may be summed up as follows. There was complete restoration of the circulation in the tibials and loss of the fluid in the joint, so that all bone outlines were distinct, but the aneurysm remained of the same solidity and size. The pressure effect on the external popliteal nerve, as shown by foot-drop and wasted muscles, became more definite, and massage and galvanism were used. On Dec. 5th the measurement, made as before, was reduced to 17 inches, but this could be partly or wholly explained by the absorption of the fluid in the joint. The aneurysm was for the most part quite firm, but on its outer side there was a fluid collection. The man then wished for his discharge, but continued to attend as an out-patient for massage and galvanism.

The patient was readmitted on Jan. 16th, 1912, with the aneurysm of the same size and consistency and without pulsation. There were still the signs of involvement of the external popliteal nerve with rather more anæsthesia; the foot was more pointed from contraction of the calf muscles. On Jan. 31st I made a vertical incision down on the sac and very easily exposed it. It was then freely opened and a large quantity of both laminated and dark clot was removed and the sac completely emptied. There was no bleeding from the sac wall, so after washing it out with saline the wall was doubled down as well as possible and stitched with catgut, thus greatly reducing the empty space. Primary union took [illegible] followed by a marked reduction in [illegible] became localised in two [illegible] on the outer side of the leg and foot. The movements at the knee became more free, and it was then noticed that limitation in extension was due to some dropping back of the tibia, the result of softening of the crucial ligaments brought about by the pressure of the aneurysm on the back of the knee-joint which had been also shown by the synovial effusion. Massage and galvanism were continued, but as the ankle-joint movements remained very limited the joint was first wrenched under gas; as this did not result in much improvement the tendo Achillis was subsequently divided. Further exercises gave a much better range of movement at both knee- and ankle-joints, and the man when last seen had a quite useful limb.

CASE 2. *Left popliteal aneurysm; excision of the sac.*—The patient, aged 46, was admitted under me on July 15th, 1909. There was no history of syphilis and no evidence of cardiac or arterial disease; he had had rheumatic fever 20 years before. His general health had always been good, but latterly he had felt weak. Six months before he first felt pain in the left knee with pain shooting down the outer side of the leg; the pains continued, and during the about in the course of the second week after the accident, and sometimes even earlier.

The appliances are made at the Veifa works, Frankfort/a/Main, and can be obtained through all surgical instrument makers.

Wiesbaden.

RECURRENT INTUSSUSCEPTION:

WITH SUGGESTIONS AS TO THE ETIOLOGY.

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IN view of the rarity of recurrent intussusception recently commented upon in THE LANCET, and after reading the report of Mr. G. Grey Turner's interesting case,[1] I thought it might be of interest to place on record the notes of the following case.

On May 25th, 1909, a male child, 2 years and 1 month of age, was brought to hospital with the following history. Two hours previously he had a screaming fit, and half an hour later passed blood and mucus per rectum. The child vomited shortly after arriving at the hospital. A typical sausage-shaped mass could be felt in the upper abdomen. On two occasions previously this child had been operated upon for intussusception by another surgeon, and on each occasion recovery was uneventful. The details are as follows. In March, 1908, laparotomy revealed a typical ileo-colic intussusception which was reduced, the abdomen being closed in the usual way. The wound healed perfectly and convalescence was uninterrupted. In October of the same year the abdomen was again opened, and an intussusception was found which had started at the cæcum. Reduction was effected as on the first occasion, and again recovery ensued. On this occasion, however, the mobile cæcum was fixed by sutures.

In May, 1909, I opened the abdomen under spinal anæsthesia and reduced the intussusception, which on this, the third, occasion was enteric in type and was situated some little distance from the ileo-cæcal valve. Under spinal anæsthesia intestinal peristalsis continues unhampered by the inhibitory stimulus of the operation, and during the examination of the intestine an intussusception started, *for the fourth time*, in a coil of gut in my hand. Nothing abnormal was discovered in the abdomen which could account for the tendency in this child for intussusception to develop. Recovery was again uninterrupted, doubtless owing to the promptness with which the mother, by this time well acquainted with the symptoms, sought surgical aid.

The great interest of this case lies in the fact that on each occasion the intussusception started at a different part of the intestine. And this seems to me to raise again the question as to the etiology of the condition. In Mr. Grey Turner's case the intussusception started at the lower end of the ileum on each occasion, and he found a definite lesion to account for the tendency to recurrence. In my case no such explanation could be discovered; in fact, the recurrence seemed quite inexplicable.

Presupposing that infants (in whom the mesentery is exceedingly elastic and pliable), and subjects who have a congenitally long mesentery, are liable to develop intussusception, we are still left with the task of finding an exciting cause. Irregular peristalsis has been quoted as a factor; and this may, perhaps, be of some importance in cases where a persistent Meckel's diverticulum is present to interrupt normal peristalsis. On other occasions an inverted diverticulum, acting as a polyp, may be responsible, as in one of my cases already reported.[2] Such cases, however, are rare. FitzWilliam has shown, in a statistical review of 1000 cases, that *diet* is certainly the most important causative factor in the majority of cases. Whereas errors in diet usually cause enteritis, it is not difficult to believe that wrong feeding in infancy, not sufficiently gross to set up acute enteritis (inflammation of the mucous membrane), may yet cause chronic inflammation of Peyer's patches. Finally, a glaring error of diet causes acute congestion and swelling of this lymphoid tissue, which bulges into the lumen of the gut; such a swelling would act in the same way as a polyp, and intestinal peristalsis would tend to drive it along the canal with the intestinal contents. Where the mesentery is elastic or unusually long, an intussusception would be likely to result.

Such a view is supported, perhaps, by the uniform presence of a mass of enlarged mesenteric glands in the neighbourhood when the intussusception starts at the lower end of the ileum. These glands seem to be enlarged whether the abdomen is opened soon after the onset no less than when there has been considerable delay. Further, glandular enlargement is not a feature to anything like the same extent, I think, in enteric intussusception. The inference seems to be that the glandular enlargement precedes the intussusception, and is caused by infection from the Peyer's patches. The frequency with which intussusception starts at the lower end of the ileum and the fact that *diet* is responsible in the majority of cases seem to support the following view. That inflammation and swelling of Peyer's patches (usually the result of errors of diet) are responsible for the onset of intussusceptions starting at the lower ileum; but that these factors leave unexplained the origin of intussusceptions starting at other situations in the intestinal tract.

I have recently shown[3] how general infections may cause intestinal colic; that both acute and chronic general infections might be responsible; and in that paper I quoted cases in support of the statements made. Without again entering into detail it seems reasonable to suppose that acute general infections, which may cause effusions in the skin and subcutaneous tissues and in other regions, may also be responsible for effusions into the intestinal wall. I suggested that such an effusion, by preventing the proper contraction of the intestinal muscle in its vicinity, creates an *inert area* in the bowel wall. The bowel wall being comparatively insensitive, there is no pain arising directly from such a lesion; but such an inert area constitutes, as it were, a "foreign body" in the intestinal wall; and this affected piece of bowel tends to be driven along the canal (with the intestinal contents) in the same manner as an intestinal polyp or the inflamed Peyer's patches already referred to. The result is that *during peristalsis* the mesentery is dragged on by the efforts to drive along this portion of bowel and typical *colicky pain* results. In acute rheumatism such an effusion sometimes reaches a size sufficiently large to rupture the mucous membrane, when hæmorrhage from the bowel results; the condition is then known as "Henoch's purpura." I have encountered a similar condition in diphtheria. The effort made by the muscular action of the intestine to drive along the canal such inert areas as I have described will, when anatomical conditions are propitious, actually invaginate the bowel wall at such a situation and *intussusception results*.

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[1] THE LANCET, Dec. 20th, 1913, p. 1785; Jan. 17th, 1914, p. 169.

[2] Annals of Surgery, 1908.

[3] Practitioner, January, 1914.

The association of such inert areas with the onset of intussusception draws our attention to the relationship of this affection with acute general infections. And I wish to offer again the suggestion that *acute general infections* are often responsible for the onset of intussusceptions other than those starting at the lower ileum; and perhaps in some of these where error in diet (or other causes) can be excluded. Such a view explains the occurrence of intussusception in more than one member of a family—doubtless a fairly common experience. And this explanation is the one which I am inclined to offer for the recurrence in three different situations in the case I have just reported. I have seen the undoubted association between acute rheumatism and intussusception, and do not doubt the possibility of other infections playing a similar rôle.

The importance of realising such a cause of intussusception lies in the fact that, after treating the acute condition, we ought to make every effort to find and remove the cause. If there are enlarged glands in the mesentery, and the intussusception starts at the lower ileum, *diet* should be suspected as a cause. Careful inquiry may elicit an exciting cause; but, if not, a search should be made for evidence of a general infection. When the intussusception starts high up in the ileum the possibility of a persistent Meckel's diverticulum, or a solitary intestinal polyp (arising from the invagination of a diverticulum), should be borne in mind and looked for as an exciting cause. When these are absent, or when the intussusception starts in the cæcum, I believe the blame may often be laid at the door of an *acute general infection;* and the source of such an infection should be carefully sought and treated when the child has recovered.

Recently I operated in the following case for intussusception:—

The patient was a male child 10 months of age. The history was obtained that three days previously the child was feverish and the parents thought he had a sore throat. The medical attendant diagnosed a "feverish chill." On the day of admission to hospital a screaming attack preceded the passage of blood per rectum, and the child became *very drowsy*. Though there had been no vomiting retching had been noticed on one or two occasions. When the child was in the ward drowsiness was a marked feature of the case.

On examination of the abdomen a typical mass was felt in the left flank which made the diagnosis perfectly clear. *On examination of the neck* a large mass of enlarged discrete glands was found to be present on both sides, while inspection of the throat showed that the glandular enlargement was secondary to inflammation of the very large and reddened tonsils.

I expected to find an intussusception *starting in the cæcum* in this child; and, on opening the abdomen under spinal anæsthesia, this proved to be the case. There was no marked glandular enlargement such as is usually met with when the lower ileum forms the starting point.

Now I feel sure that the "feverish chill" owed its existence primarily to tonsillar infection, the cervical glands being secondarily enlarged; and that the resulting "general infection" was responsible for the onset of intussusception in a child whose large bowel was exceedingly mobile. In order to remove the source of infection in this case the tonsils should be completely dissected away by Waugh's method, and this I intend to do as soon as the child has completely recovered from the effects of the laparotomy. I do not believe there is any need to fix the cæcum as a preventive measure, since, if the primary cause remains untreated, recurrence may take place in some other situation (as in the case I have reported). Also, in these cases, no more should be done than is absolutely necessary. As long as the primary cause is treated, by medical or surgical measures according to the indications, not only will there be little chance of recurrence, but other undesirable consequences of an untreated general infection will also be avoided.

Harley street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON THE VALUE OF PITUITARY GLAND SUBSTANCE IN SOME CASES OF ASTHMA.

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EVERYONE is of course now familiar with the immediate success that generally attends the hypodermic administration of adrenalin or hemisine in paroxysms of true asthma; but unfortunately the gratification afforded by the production of the striking result is almost equalled by the disappointment due to its relative transience. It is, however, less well known that many patients who are benefited, during attacks, by the administration of the drug hypodermically will also obtain considerable advantage if the same drug is given by mouth regularly in tablet form.

I have employed it in this manner for weeks at a time with advantage and, so far as I have been able to ascertain, without detriment. It is true that many observers, on the strength of experimental findings, fear the development of arterio-sclerosis as a result of the long-continued use of suprarenal derivatives; yet on the whole it is a safe clinical maxim that the exhibition of drugs which supply a physiological need is not attended, if properly given, by the unpleasant consequences that may follow their experimental use when not indicated therapeutically. Recently, however, it occurred to me that it might be worth while, for obvious physiological reasons, ascertaining the effect of pituitary substance, if given regularly, in cases of asthma. For the last six months, therefore, I have treated a certain number of adult patients that I have seen suffering from asthma with two-grain tablets of pituitary gland substance, taken each night and morning. About 20 such patients have been so treated, and the results seem worthy of report.

Without exception each one of the patients so treated has expressed himself or herself as greatly benefited; the attacks have been far fewer and less severe, while the general health has in most cases improved considerably. Two points are rather striking. The majority of the patients so treated have ceased to ask for their accustomed stramonium powder for burning and inhalation; and of those who, feeling as they have said much better for the tablets, ceased regular attendance, every one has come back asking for more, as being not so well without them.

I have not yet given the preparation to any children with asthma, for in children the use of other remedies is generally so satisfactory. But some uniform throughout, and it was much more adaptable because it was able to be condensed. Several varieties of screens were used and included 1/100 mm. of aluminium, 5/100 mm. aluminium, 0·5 mm. silver, 1 mm. silver, 1, 1·5, 2, and 3 mm. lead, and 0·3 and 0·5 mm. platinum. Of these he preferred the 1 mm. silver screen. If too thick a screen were used, secondary radiation occurred. Speaking of the protection of healthy tissues, he said that he had found in cases of application of radium to the axilla that ill-effects were particularly likely to occur if the axilla was moist. This was combated by drying with dusting powder. In applying radium to a tube of mucous membrane, as the rectum or vagina, the healthy mucous membrane might be protected with a gauze plug. A flexible silver wire was a useful means of keeping the tube in position. Whenever it was possible to bury the tube in a growth to be treated this should be done, for in this way the degree of emanation utilised was at least four times as great. He then spoke of the experience which he had met with in the treatment of various forms of disease. In the case of capillary nævi a preliminary diascopy was useful. If by gentle pressure blanching was caused the result of treatment would probably be good. There was considerable personal idiosyncrasy to treatment, and it was important to gauge the personal equation first and not to keep irritating the skin lest telangiectasis and pigmentation be produced. Venous nævi reacted successfully, except when a pulsating vessel could be felt. He also spoke of the use of this treatment in certain diseases of the skin—pruritus, lichenification, chronic eczema, psoriasis, lupus erythematosus, keloid, and keloid acne. Pruritus was successfully treated only if it was associated with definite lesions. Psoriasis improved, but the rash returned. Keloid and keloid acne were benefited more than by other methods of treatment. Warts often disappeared after one exposure, but moles were not benefited to the same extent, and a scar often remained. The treatment was suitable for tuberculosis of glands in the absence of operation, but tuberculosis of skin did better by the Finsen light. Fibromyomata of the uterus had been treated by 100 milligrammes in the vagina or cervix, and 100 more on the lower abdominal wall. No result followed at first, then the metrorrhagia ceased, and, finally, the menorrhagia. From the point of view of radium therapy, rodent ulcer presented two types: (1) the hypertrophic nodular type, which was almost certainly cured by radium; and (2) the ulcerative type with overhanging edges and gelatinous base, which was not so favourably influenced by the treatment. He then spoke of radium therapy in relation to malignant disease. The treatment for malignant disease which was operable was by operation. He did not use the word "cure" for the results of radium treatment in relation to new growth. In carcinomata of the tongue and mouth there had been some encouraging results by the use of small and powerful tubes. Carcinoma of the œsophagus had been temporarily benefited, but he had not seen a case of arrest of the growth. The annular type of carcinoma of the rectum was influenced more than the plaque variety of growth. Some very good results had followed treatment of carcinoma of the bladder, and he had seen no results equal to those obtained by radium, operation excepted, in carcinoma of the uterus. When in this disease a Wertheim's operation had been done it was necessary to exercise great care in the treatment. Improvement had been noticed in the treatment of new growths of the prostate and of the penis. The neoplasms which responded best of all were the sarcomata, particularly those in the naso-pharynx, and the lympho-sarcomata. Melanotic sarcoma was best left untreated by this means. In lymphadenoma great and rapid temporary improvement had followed. Neuritis due to local lesions had been benefited. The variety of arthritis deformans which gave the best results was that which was multi-articular in character and peri-articular in form. It was incumbent upon all of them to exercise the greatest caution in the publication of their results, and more especially of statements which might afford an opportunity for distortion by the lay press. The effects of garbled announcements in the daily papers were often most tragic, and the amount of mental distress caused to patients and their relatives when they were informed of the true position of affairs was incalculable. He could find it in his heart to wish that all workers with radium might be pledged to a policy of silence for two years, and though this was impossible he could at any rate urge the deletion of the word "cure" from their vocabulary when speaking of the radium treatment of malignant disease. They must all most earnestly hope, however, that the time was not far distant when, with increased knowledge and improved technique, they might be able to use the word "cure" deliberately and justifiably. That they did possess in radium a therapeutic agent of great power no thinking medical man could deny, but exactly how powerful it would prove to be was at present a matter of conjecture. Many years ago the eminent philosopher and scientist, Sir Isaac Newton, in reviewing the work of his life, said: "I seem to have been only like a boy playing by the seashore and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay undiscovered before me." He hoped his hearers would pardon him if he adopted that simile and said that the present-day workers with radium were but as beach-combers searching earnestly and persistently, finding here the valuable agate of hard fact, and there the precious shell of some delicate inference; but the treasures of the ocean of radium therapy lay unexplored before them.

Sir FREDERICK TREVES said that the position of radium was peculiar, for it had controverted acccepted laws both in physics and in chemistry, and exhibited no feature which was not marvellous. It had often been said that radium stood at a very excessive and artificial price, and that, commercially speaking, a corner in radium existed, but there was no truth in this statement. The price was due entirely to the demand. He expected that it would become cheaper, but would never be cheap. There was a prospect of using additional sources of supply. As the result of the great demand for it much so-called radium was of very inferior quality. Terms of amount which were frequently used in radium therapy were of no value, as the strengths varied greatly and there were many different salts, each containing a different percentage of the metal. The technique which had been employed at the Radium Institute was that laid down by Wickham, but, as that observer had indicated, there was every probability that the technique might be improved. He agreed entirely with the closing part of Major Pinch's address.

Sir ALFRED PEARCE GOULD said that he also appreciated the caution advised by the opener, that little should be said of the curative value of radium for the present. He agreed that the introduction of radium into growths was much better than its application to their surfaces, and recounted a case of a tumour of the brain of a girl to whom decompression had been done. A large mass projected through the skull, but whether of cerebral tissue or glioma it was impossible to say. After the introduction of radium she had recovered speech and memory and had been able to give an account of herself. The improvement lasted three weeks, but her stuporose condition then recurred and she died. One could not speak of any remedy for cancer by the name of "cure" until one knew the nature of the condition.

Mr. A. CLIFFORD MORSON spoke of his researches into the histological appearances of new growths after radium treatment. The malignant cells underwent degeneration, not only in the growth itself, but also in the glands secondarily affected.

Dr. HERBERT WILLIAMSON spoke of the use of radium in diseases of the female genital organs. He had had experience in cases of carcinoma of the cervix, carcinoma of the body of the uterus, fibromyomata, and fibrosis uteri. In carcinoma of the cervix he had operated first, and within two or three days afterwards applied radium through the vaginal wound which had been left open. His object had been to subject to the emanations the outlying cancerous tissue. It was too early to judge of the results. Only inoperable cases had been treated by radium. He had not seen a case either cured or rendered operable, but the patients' lives had been prolonged, and considerable improvement had followed. In every case, however, a sudden and unexplained outburst of carcinoma had taken place later. In carcinoma of the body of the uterus the results had been better, and he thought that one case had become operable by this means. He had only employed it for fibromyomata where operation was contra-indicated, and had treated two cases in which no uterine hæmorrhage at all had followed.

The question of cure in such cases should be postponed, but he was convinced that in radium the surgeon had a powerful aid which should be called in as soon as possible after operation

Mr T H KELLOCK said that he was in agreement with nearly everything which Major Pinch had said He mentioned that radium treatment might produce harm, and called attention to the necrosis and destruction which might result in healthy tissue He had seen necrosis of bones, and especially of the jaw, after the application of radium an eventuality which might sometimes be deferred for weeks or even months It was necrosis of a very severe form He had observed the same effect upon the mucous membrane of the mouth which was comparable to that produced by X rays Many of the cases which were especially benefited were those in which sepsis and cancer were combined, and he thought that in such one ought not to draw too definite a *conclusion as to the effect on the cancer itself* He doubted whether radium ought only to be used for inoperable cases, and did not think it a rational procedure to use radium after the growth had been removed

Mr DOUGLAS HARMER said that radium had proved of great value in the treatment of cancer of the upper respiratory tract and that the following considerations were important 1 Method of application Tubes containing 100 to 200 milligrammes should be buried deeply in the growth, if possible, from outside by an aseptic operation The normal mucosa must be protected from burning For cancer of the mouth or pharynx as much of the growth as possible should be removed by diathermy before applying the radium The tubes might be left in place for 12 to 48 hours, according to the size and situation of the growth, large doses and prolonged treatment were followed by considerable sloughing 2 Effects produced (*a*) Shrinking *of the growth was often rapid, and was obvious a few days* after exposure If no result was noticed in three weeks the case was not a favourable one (*b*) Arrest of hæmorrhage Radium was valuable for this purpose, for instance bleeding from a cancer of the tonsil could sometimes be checked completely by an application of a few hours (*c*) Pain When the growth disappeared or became smaller pain might be completely relieved, on the other hand radium might increase the pain, and this constituted one of the great drawbacks to the treatment in very advanced cases 3 Results In most cases improvement was only temporary, but in rare instances it might last for months or even years The best results were seen in cases of rapidly growing sarcoma, such as occurred in the nasal fossa, upper jaw, post nasal space or tonsil As operations on such tumours were so often followed by rapid recurrence the question of radium in preference to the knife should be carefully considered Growths which appeared to be microscopically sarcomata might completely disappear after radium Carcinoma of the upper jaw or nasal fossa might also shrink away quickly and remain quiescent for a period and hard warty growths on the tongue, tonsil, floor of the mouth or pharynx were rarely improved He had not yet seen a cancer of the tongue or tonsil which had been cured by radium Epithelioma of the deeper pharynx and œsophagus could sometimes be retarded by radium and dysphagia might be relieved for a time Ulceration might disappear, so that expectoration of foul discharge was lessened Greater activity of the growth was rare Endothelioma was said to improve but in two of his cases the radium had little effect The important question arose whether radium should be placed in wounds when it was found that the whole of a growth could not be removed with the knife and for how long the treatment should be continued There seemed no conclusive evidence that radium would retard the growth in some cases Certain innocent tumours could be cured by radium At the present time he had under treatment a case of multiple papillomata of the larynx which was steadily getting better Previously the man had had repeated operations during ten years Harris, of New York, reported 13 cases of the same kind cured by radium with better voice results than would have been obtained by operations

Dr N S FINZI referred to the factors which influence success or failure in the radium therapy of malignant disease 1 The most important factor was the type of growth The more rapid the growth the more likely was it to respond readily, and the more vascular growths were also more favourable The round celled sarcoma was the most amenable to treatment, and he advised radium treatment of this disease in preference to surgical eradication, the other sarcomata were also favourable but to a lesser degree The columnar carcinomata responded better than the epitheliomata and in some cases, particularly uterine carcinoma they responded very well indeed The epithelioma of the *maxillary antrum* was an exception to the general rule of epithelioma and responded readily The endothelioma also reacted favourably 2 Stage of the disease This was most important as the action of the radium was due, in part at any rate, to the action of the healthy tissues *in destroying the disease In the later* stages of the disease the patient's resistance went and radium would do no good 3 The method of application (*a*) It was essential to treat the disease thoroughly as well as the outlying parts Excessive radiation causing sloughing of healthy tissues *was to be avoided* (*b*) Frequency of repetition As a rule applications were used at intervals of six to eight weeks, and it was better to use long applications at long intervals than short applications at frequent intervals (*c*) Type of rays In his experience the γ rays were the most useful type He usually employed 2 mm platinum to screen the rays in most forms of malignant disease (*d*) It was necessary to use large quantities of radium in dealing with this complaint He agreed with Major Pinch as to the advisability of burying the radium in a growth whenever possible Not only were the rays in all directions utilised but one also obtained rays of very great intensity close to the tube He was using another method which he suggested in 1909 Instead of burying the radium in the growth it was buried in the tissues around it close to the growing edge The method was only available in a few cases, but as the growing edge was all that really mattered *in a growth the method had distinct advantages* It also led to a considerable amount of occlusion of the vessels and lymphatics around the growth This was most desirable, as it caused retrogression It was essential in all these embedding operations to practise the *most rigid asepsis* the damaged tissues forming an excellent breeding ground for bacteria if they were allowed to enter A variant of these operations was to introduce radium not into the centre of the growth, but under the growing edge or in a groove in the growth

Dr H LEWIS JONES emphasised the importance of detailed study of the after histories of cases that had been treated by radium

WEST LONDON MEDICO CHIRURGICAL SOCIETY

The Treatment of Syphilis of the Central Nervous System

A MEETING of this society was held on March 6th, Dr F S PALMER the President being in the chair

A paper was read by Dr HARRY CAMPBELL on the Treatment of Syphilis of the Central Nervous System He said in the treatment of the interstitial forms of syphilis of the central nervous system gummatous meningitis endarteritis, &c, good results could be obtained from the use of mercury and potassium iodide and salvarsan, the mercurial course must be thorough and the dose of iodide large 1–2 drachms or more of the latter three times a day In the parenchymatous forms of the disease general paralysis of the insane and tabes dorsalis, no drugs were of use because the coverings of the cord and brain did not permit their passage In 1900 intrathecal injections of mercury into the spinal canal were first tried Two years ago injections of salvarsanised serum were injected into the spinal canal, in nearly every case of tabes dorsalis where this treatment had been adopted improvement occurred The lightning pains have in each case been relieved in nearly all the Wassermann reaction has become negative while the leucocytosis has improved and the patient put on weight very rapidly Cases of general paralysis have not been improved, but in two cases recently where the serum has been introduced into the lateral ventricle there has been some improvement

Dr PALMER said From the large amount of research in recent years into the pathology of syphilis of the central nervous system there is stro
that the infection is in every
of the brain and cord, and

deserved careful study. It must be remembered that a genuine secondary dermatitis might be set up by scratching and might mask the original artificial eruption, also that a genuine pre-existing skin disease was sometimes wilfully aggravated and kept up by patients who profited by continued disability. On the other hand, a particular occupation might have been followed for years without the skin suffering, and yet from lowered vitality or other causes the skin resistance might give way and a true dermatitis ensue. For the detection of simulated unilateral blindness an ingenious test has been invented by Dr. von Haselberg, of Hamburg, consisting of parti-coloured letters and figures used in conjunction with red and green glasses. It was based on the fact that anything coloured red could not be distinguished as red if looked at through a red glass. To be successfully applied the test must be carried out with great caution. One of the most difficult things in medico-legal medicine was to state with any degree of accuracy the amount of disability resulting from impairment of the hand as a whole or any of its digits separately or together. This difficulty was enhanced by the invariable habit patients had, when being examined with a view to fitness for work, of involuntarily watching every movement they were asked to make, with the result that the malingerer consciously, and the honest man unconsciously, restrained all movement. No real information could be gained unless the patient's view was entirely obscured, either by a book or newspaper held in front of his eyes, or better by blindfolding of his eyes. By various devices also a malingerer might be taken off his guard and led to execute movements of which he had professed himself quite incapable. Loss of substance, the result of sloughing or suppuration of ulcerated wounds, when it took place in large muscles, sometimes produced an unsightliness out of all proportion to the diminution of power resulting from the accident. It was not infrequent, therefore, to find that during the process of healing, which was necessarily slow, a man had consciously or unconsciously been directed by actual loss of tissue to exaggerate the resulting disability. It was not unnatural for a layman to associate loss of substance with corresponding loss of function, making no allowance for the surplus power with which nature had lavishly supplied us, and this was exactly the class of case in which the judicial authorities, if unassisted by a medical referee, were apt to sympathise unduly with the plaintiff.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 25th, Dr. J. Coubro Potter being in the chair.—Dr. Potter exhibited a case of Retro-Pharyngeal Abscess in a woman with secondary abscess in the axilla. Owing to the serious condition of the patient a preliminary laryngotomy was performed and the upper end of the larynx plugged. The abscess was then evacuated. Recovery was uneventful.—The case was discussed by Mr. C. J. Heath, Mr. W. Ibbotson, Dr. Frederick Spicer, and Mr. Haynes Lovell, who thought that possibly the axillary abscess was primary and not secondary.—Dr. Potter, in reply, said he looked upon it as an acute exacerbation of a chronic condition, possibly arising from tuberculous prevertebral glands. The fact that no tubercle bacilli were found in the discharge did not negative tuberculosis. He also showed a case of severe Tinnitus in a woman with suicidal tendencies.—Mr. Heath showed two patients on whom he had performed mastoid operations in order to prevent deafness, and subsequently read notes on a mastoid case in which delay of operation caused prolongation of the danger by weeks and the after-treatment by months.—Dr. Spicer pointed out the great difficulty of the general practitioner in making a decision as to the necessity or otherwise for a mastoid operation. He thought that the indications for operation required revising. He could not quite agree with the dictum of Mr. Heath, "that a persistently discharging ear without pain means danger to hearing and a discharging ear with pain danger to life." According to that view every discharging ear ought to be operated upon. He hoped Mr. Heath would clearly state what he considered were the indications for performing a mastoid operation.—The cases were also discussed by Dr. Potter and Mr. J. Walker Wood.—In reply, Mr. Heath pointed out that the treatment must depend upon the aural surgeon's ideal. If his ambition extended to the prevention of deafness from aural suppuration, he must arrest discharge before it had done harm to the tympanic apparatus, and this frequently entailed the performance of a conservative mastoid operation within a few days or weeks of the commencement of disease according to the urgency of symptoms and condition of hearing. If, however, the aural surgeon—as some did—held the power of hearing in little estimation, and was content with saving life, then he might allow the discharge to continue until the patient died of old age, or until dangerous symptoms appeared, and then perform a radical mastoid operation.—Dr. Spicer showed a case of new growth on the palate which was thought by the Fellows present to be papillomatous in nature.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Liverpool on Feb. 20th, Dr. J. H. Willett (Liverpool), the President, being in the chair.—Dr. J. E. Gemmell (Liverpool) showed: 1. A specimen of Carcinoma of Cervix commencing during pregnancy, from an 8-para, aged 34, which had caused hæmorrhage during the later months of pregnancy. Labour was normal, but the hæmorrhage continued, and there was pain referred to the right hip and thigh. On examination the cervix was enlarged, its inner surface being rough and boggy. The uterus was removed by pelvic dissection, the patient making a good recovery. Microscopic section showed a glandular carcinoma. 2. A specimen of Carcinoma of Ovaries removed from a patient aged 41, with a diagnosis of double chronic inflammatory appendages. The growths were adherent to the floor of the pelvis, to omentum and rectum; the left contained pus. Microscopic section showed a mass of glandular carcinoma. Dr. Gemmell also reported a case of Solid Ovarian Tumour as a cause of dystocia necessitating Cæsarean section. The patient was a 2-para, the first confinement being normal. Twelve hours after the commencement of labour her medical man found the head obstructed by a hard swelling which filled the pelvis. This tumour could not be moved so Cæsarean section was performed, and subsequently a solid tumour of the left ovary, the size of a fœtal head, was removed. Convalescence was complicated by a cystic swelling over the sacrum, which eventually had to be opened.—Dr. D. Dougal (Manchester) read the notes of a case of Ectopic Pregnancy occurring twice in the same patient. The patient, a 1-para, aged 28, went two weeks over her period in July, 1912, and was operated upon for a ruptured ectopic pregnancy of the right tube; this tube and ovary were removed. Menstruation was now regular for 14 months, when she again went over her period for two weeks, and was now operated upon for a ruptured ectopic pregnancy of the left tube. Figures were given to illustrate the frequency of this condition.—Mr. W. P. Gowland (Liverpool) gave a demonstration of Born's method of reconstructing embryos in wax. The embryo was first cut in serial sections and the method of drawing these on an enlarged scale by means of the Edinger projection apparatus was demonstrated. The conversion of the drawing on thin tissue paper into a wax plate was also shown and the means to secure accurate orientation when the plates were superimposed to form the complete model. Great stress was laid upon the necessity of proper fixation of the embryo in as fresh a condition as possible. Models of human embryos, kindly lent by Professor Peter Thompson and Mr. N. C. Rutherford, were on view. During his remarks Dr. Gowland pointed out the necessity for a closer association between the gynæcologist and the anatomist, as only by coöperation between the two could many embryological problems be solved.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 6th, Dr. David Ross, the President, being in the chair.—The President showed a man, aged 46, who took to his bed, after being unfit for a week, with symptoms suggesting influenza. Two days later he was seen by Dr. Ross and found to have a temperature of 102° F., general rhonchi, cough, dorsal backache extending to the sternum, which was tender; the tongue was dry and brown; he looked very ill. The pain lasted for six days, then gradually disappeared, and in 17 days from being medically seen the patient thought medical attention unnecessary. A few days later the pain recurred. Dr. Ross was again called in on the nineteenth day from his first visit to find an abscess pointing over the mid-sternum the size of a teaspoon bowl. This was incised and about

300 c c of pus let out The sternum was perforated The man [illegible]

lasting a minute or two He could induce but could not inhibit the spasm Treatment had been ineffectual —Mr W C M Donnell showed a man, aged 31, the subject of old Right Pleurisy, Emphysema, and Chronic Right sided Pulmonary Tuberculosis, whose apex beat was two inches below and half an inch inside the right nipple The liver was on the right —Mr J J Udale showed a man aged 53 with Elephantiasis of the Left Leg of 19 years' standing that commenced after erysipelas of that leg There had been recurrent attacks Filariæ were not present Lymphangioplasty had been twice done with temporary success on the second effort Autogenous vaccine treatment had been tried without benefit —Mr H Curtis advised further careful autogenous vaccine preparation and use —Dr B G Morison read notes of a case of Acute Rheumatism in a girl of 11 years, who had purpura at its commencement followed by endocarditis leaving a damaged mitral valve

LEEDS AND WEST RIDING MEDICO CHIRURGICAL SOCIETY —A pathological meeting of this society was held on Feb 27th at the Leeds School of Medicine, Dr T Wardrop Griffith, the President, being in the chair —Dr A S F Grunbaum read a paper entitled "Theoretical and Experimental Aspects of the Treatment of New Growths" which was discussed by Mr G Constable Hayes, Dr J E Eddison, and Mr J F Dobson —Dr C W Vining showed a specimen from a case of bilateral cortical infarction found post mortem in a girl of 16 dying from general peritonitis following acute intestinal obstruction It was pointed out that this kidney condition was rare, and when it did occur it was in cases of women dying from eclampsia at childbirth —Dr G W Watson showed a Portion of Lung and a Spleen from a case of Phthisis which terminated fatally six to eight weeks after the onset of symptoms The signs in the chest extended very rapidly during the last four weeks of life, and death occurred suddenly from a severe hæmoptysis The spleen showed a massive infarction It was suggested that the cause of this infarction, and also that of multiple small infarctions which were present in the kidneys, was probably detachment of portions of clot from thrombosed pulmonary veins

Reviews and Notices of Books.

Studies in Water Supply

By A C HOUSTON, D Sc, M B, C M Edin London Macmillan and Co, Limited 1913 Pp 203 Price 5s net

IT is frequently asserted, and with considerable ground, that as regards the science of bacteriology, and particularly as regards that portion of it of which practical use is made in medicine, we in this country owe an immense debt to France and Germany All the more credit therefore, is due to Dr Houston in that he has applied bacteriology to the problem of water supply in such systematic, careful, and progressive fashion that the laboratory of the Metropolitan Water Board has become in this matter the pioneer water laboratory of the world

The present monograph contains an account of some of the numerous and important investigations that have been made by Dr Houston and his assistants on problems in relation to water supply, and it has, of course, special reference to the water supply of London We shall not here refer to the general considerations of the work done at the laboratory of the Metropolitan Water Board, as these have already been fully dealt with in a leading article in THE LANCET of Feb 7th, 1914, p. 398, but shall confine ourselves to a consideration of details

The continuous examination of the water of the Thames and Lee has enabled Dr Houston to indicate the times at which from the point of view of quality it is desirable to abstract water for supply, and the times at which abstention is preferable Dr. Houston employs the colour test for this purpose, and uses Burgess's scale for classifying the results

Regarding the preliminary purification of raw water the improvement in quality to be obtained by simple sedimentation is thus clearly shown —In an experiment with a small storage reservoir of 7,000,000 gallons capacity it is noteworthy that a nominal storage of only 15–16 hours produced a percentage reduction in the bacteria of 39 2, in the ammoniacal nitrogen of 20, and in the turbidity of 21 8 Dr Houston finds that the use of coagulants increases this preliminary purification, and he has also a word to say in favour of mechanical or pressure filters which at York, during a trial lasting for three years, appear to have produced the very satisfactory reduction of the bacteria by 85 per cent

It is characteristic of Dr Houston that, although making the fullest use of available methods and sparing no pains to substitute well ascertained and patiently collected facts for the previous vague knowledge, he has always had an eye to the introduction of improved measures of water purification It is clear from the present book that the idea of absolutely freeing a water of all its living germs has been much in his mind No doubt this idea of sterilising a large volume of water arose in connexion with sewage effluents in the course of his previous work as bacteriologist to the Royal Commission on Sewage Disposal For Dr Houston, in the typhoid outbreak of 1905 at Lincoln, which was traced to the water supply, performed the memorable task of sterilising the water supply of the town without interfering with the service We believe that we are correct in stating that this was the first occasion on which such a feat had been accomplished in any country It is necessary to emphasise the point, because Dr Houston's methods were later copied in America where an attempt has been made to present the credit of this pioneer work to an American whose work considerably post dated that of Dr Houston The sterilising agent used by Dr Houston with such success at Lincoln was an alkaline solution of sodium hypochlorite known as "chloros," a preparation which contains from 10–15 per cent of available chlorine, but Dr Houston remarks that bleaching powder, which contains about 33 per cent of available chlorine, is equally suitable The dose of chloros used at Lincoln for sterilising the water supply varied according to circumstances, but was usually 1 100,000, or approximately 1 to 1,000,000 in terms of available chlorine This treatment of the Lincoln water was continued over a period of six years, until a new supply was introduced

Dr Houston has now devised a new and in many ways improved method of sterilising an impure water supply This method he calls the "excess lime method" In the time honoured softening process for hard water a limited dose of lime is added, the amount being carefully calculated so as to be rather less than is needed to combine with the bicarbonates present Dr Houston points out that owing to the purely chemical nature of the object in view this procedure has been so arranged as to prevent the bactericidal action of the lime. By his "excess lime method," therefore, the water is purposely overdosed with lime so as to bring about a known bactericidal effect, and then, after a suitable interval, the water is mixed with enough untreated stored water to combine with the excess of lime. Dr. Houston gives numerous experiments and particulars, from which it appears that the bactericidal dose of lime for hard waters is rather less than 1 to 5000, and for very soft waters more than 1 to 50,000. He points out the circumstances under which the excess lime method is specially attractive and cites the following instances. 1. In the case of a water bacteriologically impure, which in any case it is proposed to soften. 2. In the case of a contaminated river-supply where sand-filtration is the only safeguard, where there is hardly any available storage accommodation, and where the occasional use of flood water is necessary for waterworks purposes. 3. In the case of wells not sufficiently pure to be used without some form of treatment, and concerning which some doubt exists as to whether storage *plus* subsequent filtration would prove an altogether satisfactory remedy. 4. In the case of surface waters unduly "soft" and not free from undesirable pollution. The river Dee, from which the water-supply of Aberdeen is taken, is a case in point, and it may be noted that the result of an experimental trial at Aberdeen of Dr. Houston's process has been so satisfactory that the town council has now decided to use the method continuously.

The particulars which have been given are enough in themselves to show the enormous importance of the work collected in this monograph to those who have to deal with water-supply. The remaining chapters contain a synopsis of the well-known researches of the Metropolitan Water Board laboratory on the purifying effect of storage, and also a full description of the bacteriological methods used there. Two chapters, however, remain that will be of special interest to medical officers of health and to members of public bodies who have to deal with water-supply. Dr. Houston's chapter on Water and Disease is full of information on the subject, and as temperate as illuminating. The comparison between the typhoid death-rates in the principal cities of Europe and in many cities of the United States tends to prove that America is much behind Europe in the prevention of typhoid fever. Dr. Houston's suggestion that comparison should be made of the water-supplies of all these cities both in Europe and America by standard bacteriological methods such as those which are in daily use at the laboratory of the Metropolitan Water Board is one that deserves to be acted upon. For without doubt such an investigation would yield results of great value, not only in the diagnosis and treatment of bad water-supplies, but also in the saving of human life. In addition, this inquiry would assist towards the perfection of that science of a pure water-supply which Dr. Houston himself has done so much to build up.

Flies in Relation to Disease: Non-Bloodsucking Flies.

By G. S. GRAHAM-SMITH, M.D. Cantab. Cambridge: University Press. 1913. Pp. 292. Price 10*s.* 6*d.* net.

THE rôle of flies in communicating disease through protozoan parasites, which undergo stages in their life history within the flies, is so important and has been so much written about that we are apt to forget another and very deleterious function performed by these insects.

The communication of such diseases as malaria is brought about entirely by biting flies; but such flies as well as others which only wander over the human body, especially upon sore places, may also be as deadly in their way, for they often bring with them attached to their mouth parts, or even merely to the walking limbs, germs of various diseases which they have accidentally picked up from filth of various kinds upon which they feed. This mode of infection is so obvious on *a priori* grounds that experimentation and observation are, theoretically speaking, almost unnecessary. But although the presence of danger from possible "myiasis" of this kind seems clear without further discussion, the author is of opinion that "the general tone of the medical profession is apathetic" in the matter. Dr. Graham-Smith sets himself to amend this laxity, and devotes a large part of his book to detailing important experiments which absolutely prove the deadly rôle that is played by many species of flies.

It will astonish even the reader with zoological knowledge to learn what a large number of species of diptera are to be found in the ordinary dwelling house. To most of us the house-fly, an occasional blue-bottle, a gnat or two, would seem to exhaust the dipterous possibilities. But Dr. Graham-Smith enumerates no less than 18 species, and these are only the "common house-frequenting non-biting flies." The relative importance of the different species as germ carriers is considered, a relation which depends largely upon the numbers of each species. There is no doubt from the figures given by Dr. Graham-Smith that Musca domestica is far the commonest, and therefore the most dangerous. The numbers of this fly, as compared with all others, are in some cases from 80 to 90 per cent. of the total fly population of a house. These various flies are treated of in some detail as to their structure and development, as well as their mode of life, the structure being explained by many plates. It is, of course, the habits and life history which have the greatest interest in relation to the question of disease carrying; and a vast number of these insects are known to be dung frequenters, a large proportion again being attracted by human excrement. It is, of course, in this that their danger lies.

But while these facts are of much practical as well as theoretical importance, the author does not leave us with such only partial instruction as to the rôle of flies in conveying infection. It is one thing to assert that flies can transmit the germs of various diseases propagated by germs, and another to prove that they actually do so. Dr. Graham-Smith points out that in the past epidemics of flies were believed to be associated with disease epidemics. Sydenham, for example, associated the prevalence of flies in summer with a sickly autumn. But a more definite and positive association between non-biting flies and the transmission of disease is new, and dates only from late in the last century. An immense amount of information, partly gathered by himself, is brought forward by Dr. Graham-Smith concerning actual experimentation with flies; the discovery upon them of many pathogenic organisms and the length of time which these organisms can live upon their temporary and accidental hosts are considered. Many of these experiments might be cited, but we shall call attention only to the author's researches upon B. [illegible] ich are elaborately tabulated. Th[illegible] that the bacterial organism could live in the fly's crop for four or five days and sometimes even longer, and it was proved that cultural plates could be infected by flies which had taken up these bacteria.

The volume ends with a very copious bibliography, zoological as well as pathological. Of the very greatest use as a compendium of the subject from the sanitary side, Dr. Graham-Smith's work may be commended as a useful addition to zoological literature.

Spezielle Pathologie und Therapie Innerer Krankheiten.

Edited by FRIEDRICH KRAUS and THEODOR BRUGSCH. Lieferungen 1-4 (Bd. I., Halfte I., pp 1-238); Lieferungen 5-8 (Bd. II., Halfte I., pp. 1-240); Lieferungen 9-12 (Bd. II., Heft 2. pp 1-259); Lieferungen 12-16 (Bd. II., Heft 1, pp. 241-430) Berlin und Wien: Urban und Schwarzenberg. 1913. Price 2 marks, or 2.40 kronen each Lieferung.

THE aim of this new work, according to a prefatory note, is to sum up the present state of medical knowledge. The editors point out that nowadays knowledge is so rapidly increasing that our ideas concerning disease are frequently changing, and so at certain intervals it is as well to take stock.

The work is not intended to be an encyclopædia, such as that of Ziemssen or Nothnagel. It consists of a series of monographs by writers who have made a special study of their subject, and is to form a succinct and critical survey of medical science at the present day. It is written especially for the practising physician, and consequently much attention has been directed towards the clinical and therapeutical aspects. Judging from the list of distinguished contributors and the scheme of work as laid down in the prospectus, it is evident that the editors have done their work of selection well, and we may say at once that if the succeeding parts maintain the standard of these, the work will be thoroughly valuable.

The first part deals with diseases of metabolism. Professor Magnus-Levy, of Berlin, writes on gout and diabetes mellitus, including lævulosuria, heptosuria, glycosuric acid excretion, and glycosurias of non-diabetic nature. He illuminates the subject of chemical pathology, and gives illustrative cases from his own clinic, showing how carefully and in how detailed a manner such cases are investigated, and appends instructive charts of the daily nitrogenous excretion. Though gout and diabetes are here described as separate entities, Professor Magnus-Levy discusses the relations of gout to diabetes and to obesity, and thus the idea is fostered that these are by no means independent diseases, and this is further elaborated in the section by Professor Fr. Umber, of Berlin, on the intermediate disturbances of metabolism. Under the heading of amino-acid diathesis he discusses cystinuria, diaminuria, and alkaptonuria, and takes the reader step by step through the disintegrative process therein concerned. In the same section are dealt with, diabetes insipidus and cachexia.

The second, third, and fourth instalments contain the greater part of the section devoted to infective diseases. The first 148 pages are taken up with a general review of the phenomena of infection and immunity, by Professor R. Kraus, of Buenos Aires; in this section are included such subjects as the meiostagmin reaction and Abderhalden's tests for carcino [illegible] gens writes [illegible] out that th [illegible] tigation do not as yet account for all the features of the epidemic conditions. He insists on the septicæmic character of typhoid fever as opposed to the old view of its local incidence on the intestinal glands, and advises early resumption of solid food in the form of biscuits and the like, instead of keeping the convalescent patient for a long time on slops. Professor Jürgens also treats of dysentery and of influenza. He holds that the former is a true specific disease due to the Kruse-Shiga bacillus, amœbic enteritis being a separate affection often combined with dysentery. The causal connexion of influenza with Pfeiffer's bacillus he regards as not proved, as the organism is apparently absent in many epidemics. Diphtheria is described by Professor F. Meyer, who notes that there are many gaps in our knowledge of the etiology, nature, and treatment of this disease, among which is the doubt as to the relationship between the Klebs-Loeffler and the pseudo-diphtheria bacilli. The section on tetanus is by Dr. R. Ritter von Stenitzer, and that on epidemic cerebro-spinal meningitis by Professor W. Knöpfelmacher, while Professor W. Weintraud writes on acute rheumatism. The last named writer does not regard any of the different micro-organisms described as present in cases of rheumatic fever as the proved cause of the malady, nor does he look on salicylates as true specific remedies in the sense of attacking the causal agent: they are merely convenient antipyretics which can be given in larger doses than others, such as the coal-tar derivatives, which are more immediately toxic. Finally, Professor E. Peiper contributes an article headed indigenous helminthiases, in which are included, curiously enough, accounts of certain ciliate protozoa (balantidium and lamblia), pediculi, sarcoptes, and so forth.

There are numerous illustrations throughout the various parts, many being coloured plates, which are well done. The plan and execution of the articles are alike excellent; there is a copious bibliography to most of the sections, and the whole forms a first-class text-book and a valuable work of reference in the subjects with which it deals.

Science and Education.

A Series of Volumes for the Promotion of Scientific Research [illegible] -d by J. MCKEEN CATTELL. [illegible] *Education.* New York and

THIS book is a collection of 28 addresses delivered and papers read on various occasions by American medical men eminent in their respective departments. The papers are not all recent; they bear various dates, indeed, from 1899 to 1912, and all but two have been previously published in some medical or scientific journal or other. But a common aim runs through them all, in that all deal with some aspect of the relations between research or education, or both, and medicine. It is impossible to do more than enumerate them here. Professor Richard M. Pearce, of the University of Pennsylvania, opens the volume with the Hitchcock lectures for 1912 at the University of California on Research in Medicine. They are five in number, and treat respectively of the historical aspect of the subject down to the nineteenth century, the influence of physics and chemistry, the rise of bacteriology, present-day methods and problems, and the position of medical research in America. Other papers are: The Experimental Method, and Chance and the Prepared Mind, also by Professor Pearce; the Interdependence of Medicine and other Sciences of Nature, Medicine and the University, and the Relation of the Hospital to Medical Education and Research, by Professor W. H. Welch; the Medical School as part of the University, by Professor W. H. Howell; Liberty in Medical Education, by Professor Franklin Mall; Medicine and the Universities, and Some Tendencies in Medical Education in the United States, by Professor L. F. Barker; Certain Ideals of Medical Education, by Professor C. S. Minot; the Career of the Investigator, by Professor W. B. Cannon; Some Experiences of a Medical Teacher, by Professor W. Councilman; the Place of Medical Research in the University Medical School, by Professor Theobald Smith; two addresses not hitherto published, respectively on the Outlook in Medicine and Problems, Methods, and Organisation of Research, with Special Reference to Physiology, by Professor G. N. Stewart; the Improvement of Medical Teaching, by Professor C. M. Jackson; the Equipment and Instruction of the Laboratory Years, by Professor E. P. Lyon; the Educational Function of Hospitals and the Hospital Year, by Professor James B. Herrick; the Addition of a Fifth Year to the Medical Curriculum, by Professor J. M. Dodson; Medicine and Sociology, by Professor C. R. Bardeen; the Relation of Research to Teaching in Medical Schools, by Professor W. Ophüls; the Science of Clinical Medicine, What it Ought to be and the Men to Uphold it, by Dr. S. J. Meltzer; the Public and the Medical Profession, by Professor James Ewing; the Duties and Responsibilities of Trustees of Public Medical Institutions, by Professor W. W. Keen; Research Foundations in their Relation to Medicine, by Dr. Henry H. Donaldson; Imagination and Idealism in the Medical Sciences, by the late Professor Christian Herter; and the Medical School of the Future, by the late Professor H. P. Bowditch. The subjects are for the most admirably handled, and in an interesting manner, though naturally many of them are of a debatable nature. While many of the papers deal with problems peculiar to the United States, others constitute a discussion on first principles that should have great interest for all concerned with medical education and research.

Food and Feeding in Health and Disease: A Manual of Practical Dietetics.

By CHALMERS WATSON, M.D. Edin., F.R.C.P. Edin. Second edition, revised. Edinburgh and London: Oliver and Boyd. 1913. Pp. 638. Price 10*s.* 6*d.* net.

THIS book is a very serviceable one owing to its practical character. Whilst rendering a clear account of the principles of dietetics, a very large section is devoted to the actual preparation of foods.

There are altogether 32 chapters, ten of which deal with preliminary considerations, as, for example, the function of food, its chemistry and physiology, digestion, absorption, the rôle of bacteria, the composition of animal and vegetable foods, beverages, preservatives, and adulteration. The section on diet and the choice of foods commences at Chapter XI., which relates to diet at different periods of life. Subsequent chapters give excellent practical directions as to the adaptability of foods in disease.

The author's views on the articles of diet that may be allowed in glycosuria and diabetes are of interest. In regard to carbohydrates he says that as a matter of practical experience in the treatment of diabetes the complete deprivation of starch in the breadstuffs is found to be so great a trial and becomes so irksome that it is usually necessary, and often desirable, to allow a small amount of ordinary bread. We find no reference to those foods which, although containing a large proportion of starch, claim to be suitable for diabetic patients on the ground that the starch has been so modified as to be easily digestible, the amount of sugar in the urine not being increased by their careful use. The book is full of sound observations on these and cognate matters. In the somewhat extensive appendix are published the results of the experimental researches carried out by the author and others in collaboration in the physiological laboratory of Edinburgh University since 1900. Some of these papers have appeared in our columns.

In the preface to the first edition the author acknowledges that in the preparation of the work he has derived much help (more especially with the data of the chemical composition of foods) from many sources, special mention being made of the writings of Atwater, Langworthy, "and of the analytical reports published from THE LANCET Laboratory." *We much appreciate the terms of* this acknowledgment.

Diseases of the Skin.

By HENRY W. STELWAGON, M.D., Ph.D., Professor of Dermatology in the Jefferson Medical College, Philadelphia. Seventh edition, thoroughly revised. Illustrated. London and Philadelphia: W. B. Saunders Company. Pp. 1250. Price 25*s.* net.

Dr. Stelwagon's work requires no introduction to English readers, and the fact that the seventh edition has appeared so shortly after the last speaks for the usefulness of the volume.

Considerable alterations and additions have been made. The book weighs nearly six ounces heavier than it did in the fifth edition, but the print is clearer and less trying to the eyes than in the earlier editions. The illustrations, to which 40 have been added, have a high standard of lifelike representation throughout. Descriptions have been added of prurigo nodularis, granuloma pyogenicum, benign sarcoid, and keratosis blennorrhagica. The footnote references are a valuable feature of this book—we note that there is over a page of references given under pellagra, the latest of these being that of Sambon, 1912. Dr. Stelwagon still gives details of X ray exposures by noting the spark gap, but the pastille measurement is also required to convey any accurate meaning to another worker with different apparatus.

We can heartily recommend this book for advanced students and practitioners.

Die Sanitätsausrüstung des Heeres im Kriege.

Mit Genehmigung des König. Preussischen Kriegsministeriums unter Benutzung amtlicher Quellen. Bearbeitet von Dr. W. NIEHUES, Oberstabsarzt im Kriegsministerium. Mit 239 Abbildungen auf 73 Tafeln und im Text. Berlin: August Hirschwald. 1913. Pp. 527. Price 24 marks.

DURING the last 20 years a large number of works on military surgery have been published under the direction of the Medical Department of the Prussian War Office. These have dealt with many urgent questions which concern the medical section of an army, but the present volume is as important as any of those which have preceded it. It deals with the equipment of the medical section of an army in time of war. It commences with a *description of* the field dressing, of which every soldier carries two; on the dressing are printed full directions for its immediate application to a wound, and the dressing is so arranged that it may be applied without being touched by the fingers.

An interesting description is given of the portable bacteriological laboratory; it includes a very complete set of apparatus for bacteriological work. The portable dental equipment is also very complete, and includes the appliances necessary for fillings. Then follows a description of the wagons in which are carried the medical fittings, and also of the wagons for the transport of the wounded. The account of the surgical instruments provided and the way in which they are carried is detailed, and the hospital tents are described. Of great interest is the account given of the railway carriages fitted for the conveyance of the wounded and of the apparatus for the Röntgen rays.

This work shows to what a high degree of efficiency the Prussian army has carried its medical equipment, and the great attention paid to detail.

LIBRARY TABLE.

Child Labour in the United Kingdom. By FREDERICK KEELING, M.A. London: P. S. King and Son. 1914. Pp. 326. Price 7s. 6*d*. net.—The medical profession has a special interest in any question that tends to influence for good or evil the physical and mental welfare of the race. This is a study of the development and administration of the law relating to the employment of children in the United Kingdom. After an introduction in which the history and present position of child labour legislation is described the book is divided into six parts. Part I. traces the development of child labour regulations (outside of factories, workshops, and mines) in the United Kingdom. Part II. discusses the administration of child labour regulations, including a summary of recommendations. Part III. gives tabular analyses of local by-laws. Part IV. consists of reports, notes, and tables relating to the action of local authorities in enforcing child labour regulations. Part V. contains the principal Acts regulating the employment of children. Part VI. gives chronological lists of the Acts of Parliament and Orders, and British Government reports and other official documents, with separate indexes for the volume, to places, persons, and subjects. The work is full of well-digested information.

A Manual of X Ray Technic. By ARTHUR C. CHRISTIE, Captain, Medical Corps, U.S. Army. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 104. Price 6s. net.—This is a manual describing the construction, operation, and use of the various forms of apparatus used in X ray work. It is of a purely electro-technical character, and in no sense a medical work, except in so far as the apparatus is employed for medical investigation. Most forms of apparatus are explained and illustrated, diagrams being freely employed where necessary. It will be found useful for those who are taking up radiology and wish to make themselves familiar with the intricacies of the instruments they will have to use. The idea of a technical book describing and explaining the numerous electrical and other technical apparatus used in medical work is a good one. Such a book might be made even more comprehensive than the one here reviewed; it would do much to render unnecessary the tedious initial chapters of nearly every book that appears on medical electricity and radiology.

Ambidexterity and Mental Culture. By H. MACNAUGHTON JONES, M.D.Q.U.I., M.A.O.R.U.I. (Hon. Cau.), F.R.C.S. Irel. & Edin. London: William Heinemann. 1914. Pp. 102. Price 2s. 6*d*. net.—The subject of right- and left-handedness and ambidexterity crops up at intervals and leads to considerable argument. In this book Dr. Macnaughton Jones presents the case in favour of a training in ambidexterity from earliest infancy, and considers the objections that have been urged against it. He gives several reproductions of left-handed drawing and writing, and of simultaneous two-handed writing, two of which are very remarkable. First the writing of a girl of 16 with her left hand and right hand simultaneously, in which it would be difficult to distinguish either writing from the other apart, and secondly the right- and left-handed signatures of Sir Robert Baden-Powell, of which the same remark may be made. Occasional instances, however, are hardly likely to outweigh the effect of such experiments as those made in the Berlin Public Schools by Dr. Dickhof, to which reference was made in an annotation on Left-handedness Among School Children in THE LANCET of Feb. 21st.

JOURNALS AND MAGAZINES.

The American Journal of Tropical Diseases and Preventive Medicine. Vol. I., No. 7.—The January issue gives a report by Dr. J. A. Chatard and Dr. C. G. Guthrie on a carefully observed case of Human Trypanosomiasis occurring in Baltimore. The disease, however, was contracted in Africa, and the patient had remained free from symptoms for over three years after 19 weeks' treatment there. In this relapse the improvement after a single dose of salvarsan was striking. As to purely mechanical transmission by mosquitoes or other biting insects, this is held to be negligible, for it would involve interrupted feeding and immediate passage of the insect from the patient to an uninfected person. Dr. J. Allan McLaughlin discusses the influence of water-borne disease on the mortality of children, and points a warning finger to the fact that so-called water-borne diseases are transmitted also by other agencies, such as milk, flies, and dirty fingers. He urges the importance of sound sanitary teaching on these matters in the schools, and points to the success of this method in the Philippines, where the school-taught children instructed their parents with greater success than could be achieved by any health officer. Dr. Bayard Holmes, in a paper on the Outlook for Dementia Præcox, champions Abderhalden's defensive ferment reaction as a means of objectively diagnosing dementia præcox, and finds a gleam of hope in the reports of Lundvall and Donath, who have reported cures of 30 per cent. by protracted artificial hyperleucocytosis. Dr. Allan Eustis reports a case of long-standing amœbic abscess of liver and lung cured by intramuscular injection of emetine hydrochloride.

Orthopédie et Tuberculose Chirurgicale. Paris: J. B. Baillière et Fils. Subscription abroad 18 francs. Separate numbers (two-monthly) 3 francs each.—Under this title the first number of a new French journal has recently appeared, with Dr. Ménard as director, Dr. Calvé and Dr. Lamy as editors, and with a long list of collaborators, representing England, Germany, America, Austria, Belgium, Spain, Holland, Italy, Portugal, Russia, Sweden, and Switzerland. The international character is well shown in this first number, which contains an important article upon spinal caries, by V. Ménard; an account of the progress in tendon transplantation, by F. Lange; the treatment of scoliosis, by R. W. Lovett and by Mackenzie Forbes; an account of the hospital and college at Alton, by H. J. Gauvain, as well as other articles and a review of orthopædic literature. The journal is of good size, well printed and illustrated, and if the standard of the first number is maintained it will prove a valuable addition to orthopædic literature.

The Dental Cosmos. Philadelphia: The S. S. White Dental Manufacturing Company. Price 20c.—In the February issue Dr. W. J. Gies contributes a paper of considerable value on the Relation of Sulphocyanite to

Dental Caries. In the summary of general conclusions he remarks "that there is nothing about the known quantities of sulphocyanite to indicate that it is able, in the proportion of its normal occurrence in saliva, to affect the secretory tendencies of the salivary or buccal glands, to modify the oral membranes, to influence the teeth from any standpoint, or to stimulate or retard or alter the activities of the oral micro-organisms." Dr. George Brown, in a paper on Upper Maxillary Contraction and Expansion, states that he has seen marked improvement in the general health follow the spreading of the upper arch. There are several skiagrams of cases given, but the paper is by no means convincing. In the discussion on the paper Dr. Stanton records an experiment on a post-mortem specimen. With the aid of a powerful spreading appliance he was able to spread the molar teeth, but he was not able to open the intermaxillary suture. On removing the appliance the teeth promptly returned to their original position.

Journal of Micrology and Natural History Mirror. Reading: 22, Carnarvon-road. Price 4*d.* monthly. Pp. 20.—This journal will be of interest to those who use the microscope to any extent for recreation. This, the first, issue contains, among other interesting features, an article on a simple camera for photomicrography, a lesson in tracing the genealogy of an unknown organism, a note on large- *versus* small-tubed microscopes, pond-life notes, the description of a quickly prepared slide of bacteria, and the commencement of a series of articles on mounting objects. It is an excellent publication for the amateur, and the character of the articles is indicated by an extract from the editor's opening remarks: "For the aid of those whose enthusiasm is deeper than their pockets we shall preach the gospel of 'paste board and string,' of the 'soldering bolt and the unconsidered waste trifle.'"

# Reports and Analytical Records
FROM
THE LANCET LABORATORY.

BYNO-CHRISMOL.
(ALLEN AND HANBURYS, LIMITED, 37, LOMBARD-STREET, LONDON, E.C.)

IT is remarkable how satisfactorily liquid paraffin blends with an active malt extract. Byno-chrismol, for example, which contains equal quantities of chrismol, a specially prepared liquid paraffin, and active malt extract, bynin, may be described as a very nearly clear fluid, so intimately is the oil bound up with the malt extract. As a matter of fact, the preparation is opalescent and shows complete uniformity of composition. Examined under the microscope it appears perfectly homogeneous and free from oily particles. The addition of water instantly produces a uniform emulsion. We find that the preparation exhibits a marked digestive activity on starch, and the quantity of oil incorporated is in accordance with the claim. The moisture amounted to 17·13 per cent., mineral matter to 1·07 per cent., and the malt sugar to 32·00 per cent.

KEROL CAPSULES.
(QUIBELL BROTHERS, LIMITED, NEWARK.)

The efficiency of kerol as an antiseptic and disinfectant is attributed to the fact that it contains a di-phenyl nucleus instead of a mono-phenyl nucleus, as is the case with carbolic acid. Apart, however, from the application of kerol in general sanitary or medical practice, it has received considerable praise as an intestinal disinfectant. For this purpose it is administered in capsules which secure its conveyance to the intestinal tract. Clinical observations show that it possesses distinct advantages for this purpose compared with the similar employment of salol, beta-naphthol, and other well-known intestinal antiseptics. An interesting series of cases is reported in which its value in intestinal flatulence and alimentary toxæmia is reported. Kerol was examined by THE LANCET Commission on Disinfectants in 1909 and the results awarded it a high carbolic acid coefficient. Professor Hewlett reports kerol to be 60 times less toxic than phenyl when compared with quantities of equal germicidal efficiency. This statement is most important in regard to the clinical applications of this antifermentative and germicide.

CARNINE LEFRANCQ.
(WILCOX, JOZEAU AND CO., 49, HAYMARKET, LONDON, S.W.)

Our analysis of this preparation confirmed that published by the Municipal Laboratory of Paris, although this latter analysis does not differentiate the albuminous principles. The feature of the preparation is that it contains the fresh juice of muscle expressed by pressure at a low temperature. It should, therefore, contain coagulable albumin, which we found to be the case. The amount coagulated by boiling proved to be 3·22 per cent., while the total albuminoids present was 5·68 per cent. The juice is preserved in syrup and glycerine, which render the addition of other antiseptics unnecessary. The method of preparation is of clinical importance, since not only is muscle albumin present in easily assimilable form, but it contains also the active enzymes of the muscle plasma. Uncoagulated meat juice gives the hæmoglobin spectrum, and this is the case with carnine Lefrancq.

IRISH WHISKY.
(DUNVILLE AND CO., BELFAST. LONDON: 239 AND 241, SHAFTESBURY-AVENUE, W.C.)

An analysis of two specimens of whisky from this firm appeared in our issue of Feb. 8th, 1908, and as showing the constancy of composition these analyses have been repeated on samples recently sent to us. The secondary products in V.R. brand were as follows, given in parts per 100,000 of alcohol present: Ethers, 31; aldehydes, 5·4; higher alcohols, 109; and furfural, 0·32. These figures are in substantial agreement with those previously published. With regard to the special liqueur, the recent example examined showed a reduction in the amount of furfural and higher alcohols, but in other respects the chemical composition of the liqueur remains the same. Both specimens evidenced maturity and possess that peculiar flavour characteristic of genuine Irish whisky. The standard quality of these whiskies is evidently maintained.

GRANULATED KOLA GLYCEROPHOSPHATES.
(A. WANDER, LIMITED, 1 AND 3, LEONARD-STREET, FINSBURY, LONDON, E.C.)

The appearance of this preparation is that of small sections of vermicelli, except that it is of a light chocolate colour. It affords an attractive method of administering the glycerophosphates coupled with fluid extract of kola-nut, which possesses marked stimulating properties. The dose is from one to two dessert-spoonfuls given with each principal meal. We confirmed the presence of both calcium glycerophosphate and caffeine, to which may principally be ascribed the stimulating properties of kola-nut. In one ounce of the granulated preparation we found ½ grain of caffeine and 8 grains of glycerophosphate of calcium. The medicinal value of these constituents is well known, and the preparation affords a pleasing way of administering them.

PARKE, DAVIS & Co.'s PAGE

LETTERS TO MEDICAL MEN

5. THE PHYLACOGEN TREATMENT OF SCIATICA.

NOTE.—The medical reports quoted in this letter are published by permission. On request, we shall be glad to place any *bonâ fide* enquirer in communication with the authors.

Sciatica a Symptom.

DEAR SIR,—As you are aware, the term "sciatica" has rather a wide connotation, being applied to various painful affections of the sciatic nerve. These are mainly inflammatory and perineuritic, since it is the neurilemma that is usually involved. The condition is frequently only a symptom, and until the actual source of the pain is understood, is often exceedingly intractable; hence the necessity for that accurate diagnosis which we have already insisted upon in these letters.

Sciatica may arise from inflammation (acute or chronic) of the neurilemma, the result of cold, gout, rheumatism, gonorrhœa, syphilis, or one of a variety of toxic agents; or from pressure, from whatever cause arising, directly upon the nerve, its various branches, or upon the lumbar plexus.

Rheumatism a frequent cause.

According to a writer in "Modern Treatment" (vol. ii, page 573), "rheumatism is the most frequent cause" of sciatica. In the absence of a positive diagnosis it seems reasonable, therefore, to assume that Rheumatism Phylacogen is indicated in the majority of cases.

We have records of upwards of 50 cases of sciatica that have been treated with Rheumatism Phylacogen, and of these 89 per cent. were cured. Of eleven cases reported in this country during the past year a cure was obtained in every instance, and in some of these many months have elapsed since treatment with no return of pain. The following brief clinical reports are specimens of such as we are receiving from different parts of the country:—

A West London Case.

A West London physician reports a case of sciatica which had been under observation for two years. The patient, a male, aged 24, had an attack of sciatica with every change of weather, and he had been treated at various watering places, &c., without result. He had an attack in September, 1912, when he was confined to bed. The sciatica failed to yield to any treatment, and no relief could be obtained. Treatment by Rheumatism Phylacogen was adopted, and after an initial dose of 5 c.c., five doses of 10 c.c. each were injected. Considerable reactions followed. The patient was cured and there was no recurrence of pain.

A North London Case.

The following case was reported from North London:—The patient, a female, 53 years of age, had suffered from sciatica for two and a half years. Salicylates, iodide, and all ordinary remedies and routine treatment had been tried without success. Phylacogen treatment was begun on July 8th, 1913, when 2 c.c. of Rheumatism Phylacogen were injected. July 9th, no change, 3 c.c. injected; 10th, considerable reaction, pain less; 11th, pain decidedly better, 4 c.c.; 13th, pain better, leg still weak, 5 c.c.; 17th, sciatica better, 6 c.c.; 19th, decidedly better, 7 c.c.; 21st, considerable reaction, 8 c.c.; 23rd, very much better, 9 c.c.; 25th, 10 c.c.; 26th, greatly improved, patient walks easily. The patient went back to her occupation, and there was no return of the pain some months later.

A Case from Scotland.

The following report comes from a Scottish Hospital:—When the patient, a young woman, came under Phylacogen treatment she had been suffering from an attack of sciatica of three or four weeks' duration. There was tenderness at all the nodal points of the left sciatic nerve, and some fibrosis of the left thigh and leg. Ordinary remedies had failed to produce any amelioration of the symptoms. The first two doses (2 c.c. and 3 c.c.) gave rise to no reaction, and had little, if any, effect on the pain; but the third injection, 5 c.c., was followed by a sharp rise of temperature and pulse, accompanied by intense pain, and swelling of the left arm and shoulder, which persisted for a couple of days. The sciatic pain, however, had completely gone. The patient remained under observation for three weeks longer, during which time she had no return of the pain and was able to walk and run without any difficulty.

Another Scottish practitioner reports a case of sciatica of six months' duration which improved from the first injection, and which was completely cured; and we have similar reports from Ireland and the South of England.

Dosage of Phylacogen.

The Phylacogens are issued in 10 c.c. phials only. When a dose is withdrawn the rubber cork is replaced, and the liquid keeps perfectly till it is again required. Phylacogen is preserved with a sufficient quantity of phenol to inhibit bacterial growth, and complete sterility is thus ensured. The advantage of the phial package is that any dose, however small, can be given without waste. Beginning the treatment with 1 c.c. doses (which is now recommended) and gradually working up, five or even more doses may be obtained from one 10 c.c. phial.

Our book, "The Treatment of Rheumatic Infections," gives particulars of a considerable number of cases of sciatica treated with Rheumatism Phylacogen, and we shall gladly send you a copy on request.

Yours respectfully,
PARKE, DAVIS & Co.

50, Beak Street, Regent Street, London, W.

A CASE OF

GONORRHŒAL FOLLICULAR URETHRITIS.

Treated by COLLOIDAL IODINE.

BY MARCEL DESCHAMPS,
LATE HOUSE PHYSICIAN, ASSISTANT TO DR BAZY, OF THE "HÔPITAL BEAUJON"; AND
JEAN PERIGAULT,
LATE HOUSE PHYSICIAN OF THE INFIRMERIE CENTRALE DES PRISONS.

THE spread of the gonococcal infection to the follicles of the urethra produces lesions the refractoriness of which is often the despair both of the patient and of the medical attendant; the relatively rapid cure of a case of suppurating and fistulous folliculitis which we have achieved by means of simple medical treatment seems to justify our publishing the following :—

The patient, aged twenty, presented himself at the special department for the treatment of urinary diseases of the Beaujon Hospital on the 20th November, 1913. This patient had been suffering from gonorrhœa since the 20th of October, and had treated himself without success with potassium permanganate irrigations.

On the lower surface of the penis and in its middle portion there was a hard tumour as thick as a nut. This tumour was only painful during erection. The urethral discharge showed abundant gonococci.

We at once submitted our patient to a course of Nicholle's anti-gonococcal vaccine, of which he received a daily injection according to the rules laid down by the author, the treatment being kept up for eleven days.

This treatment exerted no influence either on the discharge (which in no way diminished in intensity) nor on the folliculitis, which progressed in the ordinary manner towards suppuration and culminated in discharging by several small apertures on the 26th of November a sero-purulent fluid which, when examined microscopically, proved to contain gonococci. During the days that followed no change whatever could be found in the urethral discharge; the folliculitis underwent softening, discharging very slowly its sero-purulent fluid. At the same time, a track of lymphangitis appeared on the right side of the penis, an indurated strand being noticed on palpation; the patient was in fact, whilst undergoing treatment, passing through an attack of lymphangitis of the main lymphatics.

On the 30th of November the glandular and lymphatic induration had increased; the temperature had reached 38° C. On the 3rd of December the condition had remained stationary, and the patient was treated by means of extensive irrigation with oxy-cyanide. Though continued up to the 22nd of December, these irrigations did not succeed in drying up the discharge, which had become an obstinate gleet. The folliculitis remained the size of a hazel-nut, hard, and always discharging sero-purulent fluid through the fistulæ; it remained in this condition without any change of consistence, and manifested all signs of chronicity.

We then commenced treatment by means of Colloidal Iodine, injecting it into the anterior part of the urethra to the level of the folliculitis. On the 3rd of January, though the folliculitis did not appear to have been influenced, the discharge had considerably diminished. From this time onward the illness distinctly took a turn towards cure, and the folliculitis commenced to ameliorate, whilst the discharge dried up and the fistulæ closed spontaneously.

On the 15th of January the folliculitis had completely disappeared; seventeen days after commencing the Colloidal Iodine treatment no trace of induration remained; palpation of the urethra on a Benique showed that the canal was absolutely supple, and showed no trace of follicular abscess. **Complete absorption had taken place without the least trace of cicatricial tissue.**

We employed a preparation of Colloidal Iodine obtained by electro-chemical means, and rendered stable by a carbohydrate (Iodargol). Our preparation gave a titre of 20 cg. of Colloidal Iodine to the cubic centimetre. The injection of this product never was in the least painful; it has besides been possible to demonstrate in other cases of gonorrhœa treated by the same method that the pain on micturition disappeared in the course of the acute stage, and the latter is also shortened considerably by injections of Colloidal Iodine.

We have administered doses up to from 2-5 cc. without any bad effects either local or general being produced. It is, in fact, known that iodine when brought into the colloidal state increases its action tenfold and diminishes in toxicity to the same amount.

Nevertheless, we have been satisfied in keeping to doses of 2 cc. (i.e., 40 cg., 6 grs., of Colloidal Iodine), since the higher doses do not seem to us to produce any greater therapeutic effects. The injection was retained by the patient for two hours by means of a constricting dressing which prevented the fluid from escaping.

It has seemed to us of some interest to report this case on account of the result obtained, and above all on account of the means employed for attaining it; for follicular abscesses of gonorrhœal origin, however they may start, always sooner or later acquire chronic symptoms, and we have never so far seen any but surgical treatment leading to a certain cure.

The disinfection and incision of the abscesses from the urethral side, massage after Benique's method, have never led to complete absorption of the lesions. Whenever one has tried to treat the folliculitis in its initial stage, before it has passed on to softening, it should be removed in as aseptic a manner as possible without being opened; if it has suppurated the pocket should be freely opened and disinfected; if it has assumed a cystic appearance, after cooling, it should still be removed surgically. Such is the regular course taken by all experienced practitioners.

The success which has attended our urethral dressings with Colloidal Iodine seems to give some promise that the necessity for the radical methods of surgical treatment we have above enumerated in cases of urethral folliculitis of gonorrhœal origin may be somewhat reduced.

REVUE DE THERAPEUTIQUE MEDICO-CHIRURGICALE,
15th February, 1914.

COLLOIDAL IODINE IN GYNÆCOLOGY.

What is an Ovule?—In gynæcological practice Ovules are regarded with great favour. These products, consisting of solidified glycerine in which some medicament has been incorporated, possess the advantage that such substances can be kept in contact with the diseased part for several hours The selection of the medical substance to be incorporated is therefore of great importance.

Iodine could not be employed.—The most efficacious of active substances, iodine, could never be used in Ovules until we had completed our researches. The reason was that metalloidal iodine rapidly decomposed the glycerine and formed with it an irritant mixture which was absolutely unsuitable for therapeutic purposes.

We have realised this possibility.—Converted into a colloidal state and rendered stable by a carbohydrate iodine may be incorporated with glycerine, without any change taking place in it even *after a period* of several years. (We have samples of Ovules which are absolutely pure after two years.)

Therapeutic value of the Ovules of Colloidal Iodine.—Our Ovules contain 1·50 grm. (22 grs.) of Colloidal Iodine and possess a far higher antiseptic value than the old-time ovules containing 0·50 grm. (7 grs.) of the active substance to the unite volume.

This high dosage of iodine, which is due to the latter being in the colloidal state, far from producing any irritant action, enables our Ovules:

To lessen the pain, rapidly reduce congestion ...... and, further, gives to them considerable cicatrising power.

FREE SAMPLE of IODARGOL and IODEOL PREPARATIONS, with Literature, on application to E. VIEL & CIE., 118, HOLBORN, E.C.

THE LANCET.

LONDON: SATURDAY, MARCH 14, 1914.

Legislation for Inebriates.

THE report of the inspector under the Inebriates Act for the year 1912 differs from its recent predecessors in being not merely a record of work during the particular period to which the report nominally refers, but rather a general survey of the whole question of the legal control and treatment of habitual drunkards. As Dr. R. W. BRANTHWAITE points out in his introductory letter, such a review of the problem is peculiarly opportune at the present moment, when further proposals are being brought forward to strengthen and extend the application of the principle of restraint as a curative method in dealing with the inebriate; and in the discussion of these proposals the concise account of previous legislative experiments given in the inspector's report should prove useful and convenient.

Dr. BRANTHWAITE very rightly lays much stress on the importance of following the guidance of science in framing practical measures for the treatment of the inebriate; and with this consideration in view he devotes the first part of his report to a statement of the theoretical conceptions regarding inebriety which, in his opinion, are most generally accepted by those who take a scientific interest in this question. In substance, his view is that the inebriate—a term which he uses as synonymous with habitual drunkard, chronic alcoholic, or dipsomaniac—is an abnormal being, "the victim of a psycho-neurotic fault that implies a defective power of resistance to the action of alcohol or drugs, in exactly the same sense as tubercular tendency implies impaired resistance to the specific infection of that disease." We need not stop to consider how far the parallel which this quotation suggests between intolerance of alcohol and susceptibility to microbic infection may be open to criticism; it is sufficient to note that the criterion of inebriety adopted by Dr. BRANTHWAITE is a psycho-neurotic peculiarity shown in the tendency to react abnormally to alcohol. As a similar tendency, however, is met with in most conditions of nervous instability, and as there is no adequate clinical evidence to show that, when observed in drunkards, it presents any special characteristics, or that it ever occurs in such patients without other indications of defect or deviation, it is difficult to see any reason for regarding this sort of inebriety as anything more than a symptom of mental deficiency. No one will be disposed to question this conclusion so far as it applies to a certain category of inebriates, and more particularly to the large majority of individuals committed to reformatory detention under the Inebriates Act of 1898. But it would be an obvious fallacy, and a fallacy pregnant with very serious consequences in practice, if it were to be assumed that this narrow definition of inebriety covers all the cases of alcoholic intemperance which come within the purview of medicine and for which there is need of a State system of institutional care. As a matter of fact, pathological drunkards of this special type are relatively few in number, compared with the more normally constituted individuals in whom intemperance has developed as a result of environmental conditions; and, moreover, it is to these latter cases of environmental alcoholism that institutional treatment can be applied with most prospect of real and permanent effect. It is the more necessary to bear this fact in mind because there is at present an undoubted tendency to adopt the view that inebriety, the inebriety which has been made the subject of special legislation, is essentially an expression of an adherent defect in mechanism. There is always a temptation to apply to bio-social problems the easy hypothesis of a specific innate tendency and to explain crime, or inebriety, or prostitution, by a criminal, or an inebriate, or a libidinous, diathesis; and in the case of inebriety this spirit of *a priori* speculation has been so strong that it has moulded the character and influenced the administration of the legislative measures designed to deal with the habitual drunkard. As a result, the operation of the Act of 1898 has been almost entirely confined to individuals of the defective and degenerate class; and by a species of vicious circle the observation of such cases in inebriate reformatories and homes is now taken as a basis of argument, and has been accepted as giving an *a posteriori* proof of the original assumption that an inherent morbid tendency is the essential cause of alcoholic excess.

What makes this point of practical importance is that it goes to the root of the whole principle of State control of the inebriate. If inebriety is merely a manifestation of mental defect, then the inebriate is a proper subject for detention in an institution for the feeble-minded; the casual predominance of a single symptom—and that is all that inebriety means in such cases—can hardly necessitate treatment in a special reformatory, more particularly having regard to the small prospect of real gain, whether to the individual or to the community. On the other hand, a specially organised system of institutional care may reasonably be advocated for cases of environmental alcoholism. Such cases are certainly curable in the early stages of the alcoholic habit; they require special and individual treatment, and the expense of such treatment is justified by the restoration to society of useful citizens. Up to the present the legislation for inebriates has almost entirely failed, so far at least as its compulsory provisions are concerned, to reach this class of environmental alcoholics, and to this fact is largely due the public scepticism with regard to the utility of restraint as a curative measure. How limited the operation of the Act of 1898 has been in this respect is strikingly evident from the figures given in Dr. BRANTHWAITE'S report, from which it appears that during the 14 years the Act has been in force the total number of persons committed to reformatories has amounted to no more than 4280; and of this number only 756 were males, though alcoholism, and more particularly industrial alcoholism, is notoriously far more prevalent amongst men. The analysis of the different offences committed by these criminal inebriates is equally instructive from this point of view. To quote one illuminating example, we find that homicidal crime, the form of delinquency most characteristically related to alcoholism, was the ground of committal under the Act in exactly six instances in 14 years.

The conclusion to which the foregoing considerations must lead us is fairly obvious. The time has come for modifying very largely the direction and methods of the State control of the inebriate. The scope of legislation to that end should no longer be restricted to the congenital defective in whom inebriety is but one of many symptoms of debility and for whom there now exist other and more suitable methods of control; it should be directed to reach the chronic alcoholic whose organic disorders are the consequence of his intoxication and not the primary cause of his habit. These are the inebriates who are capable of reform, and they are also the inebriates whose intemperance represents the greatest positive and negative danger to society. But if legislation is to reach this class there must be some readjustment of our ideas on this question, and it will be necessary for those who are responsible for framing and administering the law with regard to inebriates to take a wider view of the problem, and not to answer all criticisms with such phrases as the "specific drink crave" and the "inborn tendency to inebriety."

Infantilism and Arrested Development.

IN all ages philosophers have tried to satisfy man's curiosity about himself by providing answers to his queries, Whence came I? Whither do I go? Lately man has begun to ask further questions, and the medical profession has been getting ready to answer him. He wants to know, amongst other things, why and how he grows from infancy to man's estate, a problem which clearly belongs to the domains of science rather than to those of philosophy or of religion. As yet science can answer but few of the conundrums which the phenomena of growth and development, witnessed throughout the animal kingdom, provide for solution. But certain rays of light have penetrated lately the darkness of our ignorance upon these matters, and a survey of what has been disclosed thereby is exceedingly valuable at this stage of progress. In his Hunterian lectures[1] on Infantilism Mr. HASTINGS GILFORD draws attention very appropriately—for we know that JOHN HUNTER was deeply interested in gigantism and similar anomalies—to certain pathological aspects of growth and development in the human race. The study of these is most important for the right understanding of the normal processes. There are two main avenues of scientific advance which have provided ways of access to these recondite mysteries. One is that which has been opened up by the study of eugenics, and especially by the labours of Professor KARL PEARSON and his school. The other is that provided by researches into the functions of the ductless glands, and into hormones, internal secretions, and similar bodies. The result of these investigations, and of the interest now taken in problems of growth, is that Mr. GILFORD has been able to propound a somewhat elaborate classification of infantilism, and to indicate the leading features which distinguish the different classes and subclasses from one another. It is quite probable that a good deal of this classification may have to be reconsidered, perhaps even abandoned, in a few years' time; but for the present it is a distinct step in advance simply to possess a tentative system by which the study of infantilism and allied disorders can be furthered, and by which different workers can correlate their observations made under varying conditions.

Mr. GILFORD begins with a very clear and necessary definition of infantilism and of the difference between it and dwarfism. The latter word implies merely conspicuous delay or arrest of growth, the former a similar imperfection of development. One, as he justly remarks, is purely quantitative; the other, qualitative. General infantilism usually, but not necessarily, connotes dwarfism also, and many dwarfs are infantile in some respects. But the conditions are distinct, and need not be coexistent. The complete classification of infantilism now put forward begins by separating off *evolutionary* or *phylogenetic* infantilism, which is that of immature or degenerate races. *Developmental* infantilism is the other main genus, and can be divided into the infantilism of *cells*, of *organs*, and of the *individual* as a whole. It is the latter which possesses the greatest interest, and requires further subdivision. Mr. GILFORD begins his classification of individual infantilism by explaining the difference between a fluctuation and a mutation. The former is a lesser degree of variation from the normal than the latter, which corresponds rather to what breeders know as a "sport," and which has been made familiar to us all by recent work in biology and heredity. The difference is quantitative rather than qualitative; and since there is no hard-and-fast distinction, it is evident that borderline cases must exist. Classification is further complicated by Mr. GILFORD'S unproved assumption that a fluctuation is a variation which can be attributed to definite causes, whereas a mutation cannot be explained except by the catchword of heredity. It is doubtless true that most cases of *symptomatic* infantilism—that is, infantilism which can be ascribed in part at least to causes other than heredity—are of lesser degree than those of *essential* or *idiopathic* infantilism, which is independent, so far as we know, of environment. To that extent the identification of symptomatic with mild, and of idiopathic with severe infantilism may be useful; but it does not afford a sound basis for a scientific classification, and appears to be dangerous in consequence. Symptomatic general infantilism may be *toxic*, *correlative*, or *deprivational*. Such poisons as those of syphilis, tuberculosis, malaria, and as yeast, opium, tobacco, lead, and mercury are cited as competent to produce the first of these varieties. Correlative infantilism may be due to disorder of some endocrine organ, as, for instance, cretinism following atrophy of the thyroid gland; or may be correlated with achondroplasia, muscular dystrophy, amentia, or similar defects in a manner which defies closer analysis. Deprivational infantilism is not definitely admitted to exist; indeed, Mr. GILFORD inclines to believe that infantilism cannot be produced by deficiency of food in quantity or quality.

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[1] THE LANCET, Feb. 28th, 1914, p. 587; and March 7th, p. 664.

Essential infantilism occurs in two separate varieties—ateleiosis and progeria. The former is infantilism pure and simple; the latter is infantilism with superadded premature senile decay. These two extraordinary conditions have attracted much attention in the past few years, and their leading features have been described by several authors. Of ateleiosis, indeed, subspecies are recognised, according to the age at which the symptoms begin and to the sexual or non-sexual character of the infantilism. The consideration of this type of arrested development, which Mr. GILFORD regards as a throw back to some ancestral form, leads him to some interesting speculations concerning the descent of man and his evolution from non-human progenitors. It leads him also to a survey of ateleiotic cases, from which it can easily be seen that in many of them there is ground for suspecting endocrine deficiencies of various kinds. More than that, he frankly admits that in some cases it is difficult to make out whether ateleiosis or some endocrine defect—e.g., cretinism—is responsible for the infantilism. This surely demonstrates that there is no valid distinction between symptomatic and essential infantilism, and that the objection on logical grounds to a hard-and-fast distinction between them is borne out in practice. Nevertheless, ateleiosis is a useful label for a group of cases sufficiently alike to be provisionally classified together. The characteristics by which they can be identified are set forth by Mr. GILFORD with much clearness; and, indeed, he handles the whole subject of infantilism with a grasp and intimacy which will, we are certain, be of great value to his readers. His contributions to the study of infantilism had already clearly marked him out as a high authority on the subject, and that position he has now consolidated in these valuable Hunterian lectures.

Annotations.

"Ne quid nimis."

AMBULANCE SERVICE FOR THE METROPOLIS.

THE General Purposes Committee presented to the London County Council on March 10th further details of the proposed ambulance scheme for the metropolis, which has been in preparation since the Council decided that it could not accept the assistance of the Metropolitan Asylums Board.[1] The committee stated that the scheme now put forward could only be a tentative one, providing a service which in the future might be augmented or varied as experience might direct. The committee reaffirmed the opinion to which it has lately come, that existing appliances could only be used as supplemental to a service to be established by the Council, which must meet by itself the primary needs of the public. The committee gave some interesting figures supplied by the Commissioner of Police, showing the number of accidents and cases of illness in the streets during each of the 24 hours in the months of September, October, and November, 1913. It appeared that the greater number of accidents occurred during the luncheon hours and during the period from 5 to 7 P.M. The total number of cases in the three months were: Accidents, 4434 cases of illness, 1309. Without taking into account cases conveyed by the police to local doctors, of which no statistics were available, or accidents in factories and workshops, estimated by the Home Office at from 8000 to 10,000 per annum, the number of cases of accident and illness was estimated at 20,700 a year. The committee therefore proposed to provide for an estimated number of 27,700 cases, but as the dangers from street traffic were exceptionally great in London it was likely that this limit would be greatly exceeded. The scheme outlined by the committee provided for control by the fire brigade department, subject to the advice of the medical officer of health on medical questions. Six stations would be provided, three north and three south of the Thames—viz., at Fulham; Devonshire-mews, Harley street; Shoreditch; Southwark; Lee, S.E., and Brixton-hill, Lambeth. Each station would have one ambulance, except Shoreditch, which would have two. Temporary iron buildings would be provided so that removal would be easy if experience showed that better sites were possible. From these stations the committee believed that all parts of the county could be served. The ambulances would be petrol driven, as electrically propelled ones would not be suitable where the neighbourhood was hilly or long distances had to be covered. After exhaustive consideration of various types of stretcher appliances the committee decided in favour of the collapsible dhooly as used in Glasgow, with the addition of an attachment, only used in Glasgow at the Royal Infirmary, to keep the canvas rigid. Each ambulance would be equipped also with a plain board stretcher for use in cases such as fractured pelvis, where a collapsible stretcher might cause harm. In the ambulance itself a spring mattress covered with air beds would be provided. For the purpose of calling the ambulance the committee considered the existing telephone facilities would be sufficient, and it was hoped that residents whose premises were connected with the telephone system would place their telephones at the service of a constable in uniform, the houses of such residents being indicated, perhaps, by the attachment of a small notification plate. The committee asked for authority to proceed with a scheme on the lines indicated above, and received it after considerable debate.

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[1] THE LANCET, Dec. 20th, 1913, p. 1786.

THE RELATION OF SPEECH TO INTONATION AND RHYTHM.

THE question has frequently been discussed whether intonation is an integral or an independent element in articulate speech. The matter is only part of a wider subject—viz., the nature of the relations between articulate speech and the appreciation of tone and rhythm, as well as the expression of tone in singing speech. Cases have been recorded where patients suffering from motor aphasia have been able under the influence of musical stimuli to articulate words in song that otherwise they could not articulate at all. It is generally recognised, in fact, that normal individuals can often remember the words of a song only by singing the air. Sir William Gowers has somewhere said that the words of a song do not constitute articulate speech in the ordinary sense; they are merged in the melody and appear as its completion. There is an intimate association between articulate speech and musical tones. In one of his charming neurological lectures the late Professor Brissaud remarked that "le langage quel qu'il soit, n'est donc pas seulement parlé, il est chanté. Une phrase articulée a toujours sa melodie characteristique suivant qu'elle exprime la surprise, la colère, la joie, l'indignation, le doute, &c." He held that intonation is an earlier acquisition than articulation in the function of speech, and therefore that an intonation aphasia is not likely to be met with. This evolution theory finds apparent support in the facts that some idiots who cannot articulate can compose melodies, and that infants can reproduce melodies while they cannot form words. The late Professor Ballet thought that the expression of emotion, the elaboration of tone, and the articulation of words were three stages in one and the same process. There is no doubt that disturbances in the function of intonation, impairment of the appreciation of rhythm, and, generally, amusia, are closely associated with aphasia, and can be best understood by reference to the methods of investigation of that complex symptom. Nevertheless, the simplicity of the evolution theory constitutes perhaps its sole claim to consideration, and as yet no satisfactory hypothesis has been advanced to explain the facts which clinical observation discovers. There appears to be both a motor and a sensory defect of intonation, as well as a motor and a sensory arrhythmia. Isolated impairment of intonation, of appreciation of tone, or of rhythm may certainly occur, but whether these have independent localisations is a matter difficult of decision. In the *Neurologisches Centralblatt* for March 1st Dr. K. Agadschanianz, of St. Petersburg, has discussed the whole subject in a lucid fashion, and has described two cases at some length. In one of these a patient of 62 had a slight stroke producing hemiparesis of the left side. He had formerly been a good violin player. On examination he was found to have vocal and instrumental motor amusia, sensory and motor defect in the matter of rhythm, and incomplete word deafness and melody deafness. The second case was that of a doctor of medicine, aged 50, who had been a fine piano player. After a stroke involving the right side, probably of syphilitic origin, the paralysis cleared up entirely, but when he was examined subsequently the following condition was found. There was no instrumental amusia, but he could no longer sing, although he could speak. He understood spoken words imperfectly, but much better than familiar melodies played in his presence. Similarly he repeated spoken words much better than melodies played over for him; there was gross defect in the appreciation and reproduction of rhythm. Cases of this description do not support the evolution theory which makes articulate speech a more recent acquisition than emotional speech. It is probable that the two are anatomically independent, as they are psychologically. There is, further, some evidence to associate these faculties of rhythm and tone appreciation and expression with a localisation in the temporal lobes, a large cortical area the functions of only a small portion of which have been satisfactorily elucidated.

THE TREATMENT OF STERTOR.

A RECENT correspondence in the *Times* upon the subject of the "pains of death" brought to light a good deal of evidence in favour of a view which most practitioners of medicine early become impressed with—namely, that the apparent respiratory distress, which in a proportion of cases precedes death, is not in itself at all a painful experience to the patient. This view is one which anxious relatives often find it hard to credit, in face of the obvious dyspnœa exhibited by the sick person; they scarcely dare to believe an opinion to that effect expressed by the medical attendant, consolatory though it would be. The most nerve-racking form of this phenomenon is the noisy stertor familiarly known as the "death-rattle," though in fact it often does not denote speedy dissolution, nor, indeed, necessarily a fatal result at all. There is nothing in this form of respiratory difficulty which especially characterises the ebbing of life. Exactly similar noises are heard in the breathing of apoplexy and of cerebral tumour, in cases of drowning and of recovery from anæsthesia, and in several other conditions; and the exciting cause is usually the same —that is, a partial obstruction of the airway by loss of tone in the tongue and soft palate, with accumulation of mucus or other fluids. For pointing out the essential similarity of all these conditions the public and the medical profession are indebted to Sir Henry Morris, who has increased the obligation by emphasising the teaching of the late Dr. R. L. Bowles on the correct treatment of this form of stertor. It is a curious thing that Dr. Bowles's advice to place patients thus affected on their side, instead of allowing them to remain supine, and if necessary to hold forward the jaw, is so frequently neglected by medical men and nurses in the case of the dying; for it is universally taught as correct treatment during recovery from anæsthesia and in apoplexy. In the case of the stertor of those *in extremis*, this treatment is of service only in that it relieves the nervous strain upon the watchers in the sick room, already severe enough when a beloved relative or friend is crossing the bar. Even so, it is so simple and efficacious that it deserves to be more widely known and practised. There is, moreover, the further point that it may actually save life, though such cases must be rare, apart from those other conditions, such as apoplexy, in which its value is admitted by the medical profession. In this latter state, it is relevant to observe, the importance of Bowles' postural treatment is officially taught to every member of an ambulance first-aid course; so that there should be a considerable number of the general public to whom it is perfectly familiar.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

We are asked to state that hospitals in the County of London, or within nine miles of Charing Cross, desiring to participate in the grants made by this Fund for the year 1914, must make application before March 31st to the honorary secretaries, 7, Walbrook, E.C. Applications will also be considered from convalescent homes which are situated within the above boundaries, or which, being situated outside, take a large proportion of patients from London. Applications will also be considered from sanatoriums for consumption which take patients from London, or which are prepared to place beds at the disposal of the Fund for the use of patients from London hospitals.

THE NERVOUS COMPLICATIONS OF VARICELLA.

Varicella is usually regarded as a trivial disease, but occasionally it is accompanied by as grave complications as may occur in the other exanthemata. In the *British Journal of Children's Disease* for January Dr. Reginald Miller and Dr. James A. Davidson have contributed an important paper on the nervous complications, which are so rare that they are not mentioned in the majority of descriptions. They consider that there is good evidence that focal lesions of the central nervous system (encephalomyelitis) may occur. They report the following case of encephalitis. A boy, aged 2½ years, had a mild attack of varicella, in which the temperature did not exceed 100° F. On the fifth day he was found to be unable to stand or to talk distinctly, and there was some tremor of the limbs, head, and tongue. The tremor of the tongue passed off quickly, but four days later tremor was marked in the limbs. It was a slow rhythmic movement which prevented him from standing without support. The movements of the limbs were slow and stiff. The child was irritable and emotional. The reflexes were normal. The tremor in a few days gradually diminished until it was noticeable only during excitement and at the end of the month had practically disappeared. The child completely recovered but was thought to be more excitable than previously. Dr. Miller and Dr. Davidson considered that the symptoms were due to a destructive lesion of the cerebello-rubro-spinal system. A similar case has been reported by Caccia. A boy aged 3 years developed tremor on the fifth day of varicella. Its onset was preceded by two days' vomiting. He was unable to stand erect and speech was slow. Ankle clonus, increase of knee-jerk, and extensor plantar response were present on the right side. The cerebro-spinal fluid was sterile but contained 0·3 per cent. of albumin. After four weeks all the symptoms had disappeared. Caccia attributed them to encephalitis of the left cerebral hemisphere. Marfan has reported a case of varicella complicated by encephalitis affecting the oculo-motor nuclei, and Sir William Osler one complicated by hemiplegia. Poliomyelitis and peripheral neuritis have been recorded as complications, but the evidence is not altogether satisfactory. The occasional association of varicella with herpes zoster has been described by several writers. Other nervous complications recorded are convulsions, intracranial complications of otitis media, optic neuritis, hæmorrhagic pachymeningitis, and neuromyositis. Chorea has been noted to develop at the end of an attack of varicella, and tuberculous meningitis has been recorded as a sequel.

THE INTERNATIONAL CONGRESS FOR NEUROLOGY, MENTAL DISEASES, AND PSYCHOLOGY.

Our Bern correspondent writes that this congress will be held in Bern from Sept. 7th to 12th. The invitations for the congress are just being issued. The committee of organisation is presided over by Professor Du Bois, of Bern. Dr. Schnyder, Monbijoust. 31, Bern, is secretary, and will receive all applications of intending members. The fee is 25 francs and will include the official report. Facilities for railway travelling will be offered and arrangements made for trips in the most beautiful parts of Switzerland. Twenty-nine countries have declared their adhesion to the congress and have appointed delegates. The list of distinguished neurologists and psychologists who will open the debates is already complete and includes the following names: Professors Alzheimer, Ramon y Cajal, Sherrington, Pierre Marie, Donaldson, Edinger, Ehrlich, Mingazzini, von Stauffenberg, Biedl, Dejerine, and Oppenheim in the Neurological Section; Professors Gaupp, Gilbert Ballet, Strausky, Tamburini, Bechterew, Lépine, Isserlin, Redlich, Abderhalden, and Binswanger in the Psychiatric Section; and Professors Mott, Ladame, Ziehen, Morton Prince, Sante de Sanctis, and Imey in the Psychological Section. As 53 of these and their colleagues will speak on 11 neurological, 8 psychiatric, and 7 psychological subjects, only a limited number of special papers can be read, and these must be announced to the secretary by July 1st. The Swiss National Exhibition, which takes place this summer in Bern, affords an extra attraction. The President of the Swiss Republic is honorary President of the Congress.

HERPES SUPRALARYNGEUS.

Under this appellation Dr. Vittorio Grazzi, professor of laryngology in the University of Pisa, draws attention in a recent number of *Il Policlinico*[1] to an unusual form of herpes localised in the glosso-epiglottic folds, the free edge of the epiglottis, and the upper parts of the larynx. He quotes Morell Mackenzie and StClair Thomson as having on very rare occasions observed herpes in the upper parts of the larynx, and he has himself only seen four cases, three of which had not previously been diagnosed. Usually there are manifestations of herpes in other parts of the body, but the condition may be limited to the laryngoscopic region, while the fauces may not even be congested. The course of the disease is five or six days, and a prominent symptom is the severe burning pain, which is increased by deglutition, coughing, and speaking, so much so that one of the patients in order to satisfy his urgent craving for water was obliged to take up a position with head hanging over the edge of the bed and suck up the liquid through a straw. The diagnosis of this extremely rare condition is easy if there are other herpetic manifestations on the body, but in their absence the superficial character of the abrasions, their somewhat grouped arrangement, and absence of submucous infiltration, should be taken into account. The treatment adopted by Professor Grazzi was entirely symptomatic, and consisted in the direct application of ethereal solution of iodoform and alkaline inhalations with cocaine and menthol.

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[1] Il Policlinico, Anno xxi., Fasc. 8, Feb. 22, 1914, Roma.

CASES OF SUPPOSED SYPHILIS HAVING PYREXIA AS THE ONLY CLINICAL SYMPTOM.

WRITING to the *Wiener Klinische Wochenschrift* Dr. Kraus makes the announcement that from observation of the inmates of a sanatorium for tuberculous patients he has come to the conclusion that there exist cases of a peculiar type which are commonly regarded as tuberculous, but are in reality syphilitic. The patients show intermittent pyrexia resembling that of pulmonary tuberculosis, with an occasional day or two of complete apyrexia The pulmonary symptoms found on examination of the chest are insignificant and do not correspond in their intensity to the severity of the pyrexia. There are generally loss of flesh or even emaciation, a slight hacking cough, and "hectic fever" lasting for months without being influenced at all by antipyretics; there are no direct symptoms of syphilis, but the Wassermann reaction is positive and antisyphilitic treatment causes a sharp rise of temperature, followed by a rapid and definite return of normal temperature. The patients generally have not had any marked symptoms of syphilis, and they may even be unaware that they have been infected. Dr. Kraus states that he discovered the first case by accident, but when searching later on amongst the cases he found three more within one year in the limited number of private patients admitted to his sanatorium. He says that he is not prepared to explain the pathology of this type of syphilitic manifestations, but wishes to draw the attention of the profession to a condition which appears to him to be by no means rare.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

AT a meeting held on Wednesday, March 11th, of members of the medical profession whose names have been associated with the recently published "Family Encyclopædia of Medicine" the following statement was, we are informed, unanimously agreed to:—

"As prominence has been given to our names in the advertisements of a book entitled 'The Family Encyclopædia of Medicine,' we desire to state—

1. That we are in no sense responsible for the plan or the scope of the book in question, or for the manner in which it has been introduced to the public.

2. That our sole connexion with it consists in our having obliged a fellow medical man by agreeing to correct, at his request made to us individually and privately, certain articles which he had in preparation for a book on domestic medicine.

3. We never gave authority for the use which has been made of our names.

We may add that we have received assurances from the editor and publishers of the book in question that our names will be removed from such future numbers as are not already in print.

It is needless to add that in no case was there any pecuniary consideration."

We understand that the legal position is still under consideration.

IT may seem rather premature to mention now the election for the Council of the Royal College of Surgeons of England which will not be held for three months, but the matter has been brought to public attention in more than one way. Mr. C. A. Ballance, Sir Henry Morris, and Mr. Richardson Cross are the three retiring members of the Council, and the latter two are, we understand, not presenting themselves for re-election. Another member of the Council, Mr. Jonathan Hutchinson, is retiring out of his due turn owing to pressure of hospital work. Already several candidates have announced their intention of standing, and these include Mr. W. G. Spencer, Mr. W. McAdam Eccles, Mr. William Thorburn, Mr. Stanley Boyd, and Mr. H. S. Pendlebury.

THE complimentary dinner to Surgeon-General Gorgas, which will be held on Monday, March 23rd, at the Savoy Hotel, London, W.C., will afford a great opportunity for the medical profession of this country to manifest their admiration for the scientific and administrative work which has made the opening of the Panama Canal possible. Sir Thomas Barlow will preside, and will be supported by Lord Bryce, Mr. Lewis Harcourt, and a highly representative body of medical men. Applications for tickets, price 25s. (with cheques), should be made to Mr. J. Y. W. MacAlister, at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W.

THE Fothergillian gold medal of the Medical Society of London for 1914 has been awarded to Dr. J. George Adami, F.R.S., professor of pathology in the McGill University, Montreal, for his work on Pathology and its Application to Practical Medicine and Surgery. It is hoped that Professor Adami will be present to receive the medal on the occasion of the conversazione on Monday, May 18th.

THE next meeting of the Medico-Legal Society will be held at 11, Chandos-street, Cavendish-square, W., on Tuesday, March 17th, at 8.30 P.M., when a paper entitled, "Must a Prison Governor keep Prisoners, not merely Safe, but Safe and Sound?" will be read by Mr. Roland Burrows.

AT the next meeting of the Section on Obstetrics and Gynæcology of the Royal Society of Medicine on April 2nd, at 8 P.M., Dr. Amand Routh will open a discussion on the Need for Research in Ante-Natal Pathology.

THE King and Queen will open the new premises of the National Institute for the Blind in Great Portland-street, London, on Thursday next, March 19th.

THE death is announced, at the age of 81, of Sir Francis Xavier Frederick MacCabe, F.R.C.P.I., for some years medical commissioner on the Local Government Board for Ireland.

ANNUAL REPORT FOR 1912 OF THE CHIEF MEDICAL OFFICER OF THE BOARD OF EDUCATION.

(Concluded from p. 702.)

Heart Disease and Rheumatism.

THE fifth section of Sir George Newman's report deals with heart disease and rheumatism, and brings out the fact that not enough is done to treat these conditions by school authorities. A very important table resumes the experience of the incidence of heart disease among 136,074 boys and 130,419 girls from 44 school areas, 13 being counties and 31 urban areas.

Organic and functional diseases of the heart are differentiated, and there are found to be 1111 cases of organic defect among boys and 1420 among girls, the percentages being 0·82 and 1·09 respectively, giving a mean percentage for boys and girls of 0·95. The highest total percentage recorded is 3·7 in Radnorshire (the total cases, however, are only 687), but percentages of 2·0 or over are recorded in Bradford, Heywood, Mossley, Rochdale, and Staffordshire. The lowest percentage recorded was 0·1 in Lincoln (total cases only 841), but Nottingham records 0·2 per cent., Plymouth 0·3 per cent., and Cheshire 0·2 per cent. Analyses of cases of organic defect show that in most areas mitral incompetence is most frequently recorded, but in Cambridge and Salford mitral stenosis was most frequent. A fact of very great importance is that only in 10 per cent. of children with defective hearts was any indication of imperfect health given. The indications (as given by Dr. Lila S. G. [illegible] were: f [illegible] 6; œde [illegible] 1; rheumatism, 1; growing pains, 1; and enlarged tonsils, 7.

The difficulty of the differential diagnosis of heart disease is considered with special reference to the work of Dr. H. M. Brown, who investigated 238 heart cases in Surrey, and Dr. H. W. Sinclair, who comments on the problem of the incidence of the malady in Essex. The re-examination of doubtful cases with the aid of the polygraph is recommended by the last-named observer. The correct diagnosis of heart disease is important, not only from the school point of view, but because of the great influence the opinion of a medical inspector may have on the child's future career beyond the school gates. And Sir George Newman recommends that "due weight should be given to the views of Dr. James Mackenzie" as set forward in a paper in the *British Medical Journal* for Dec. 21st, 1912. Dr. Mackenzie emphasises the "youthful type of irregularity" as a condition through which everyone at some time or another probably passes, and that functional murmurs are in themselves quite consistent with perfect health. In fact, according to Dr. Mackenzie, "a murmur or an irregularity is only of significance when it is associated with some manifest impairment of the heart muscle."

The causal connexion between rheumatism and heart disease is well brought out in an investigation of 2575 children between 5 and 13 years of age in Middlesex by Dr. A Ball, assistant medical officer. 611 of these children had a history of growing pains; 51 others gave a definite history of rheumatism. The rheumatic manifestations included acute and chronic rheumatism, scarlatinal and diphtherial rheumatism, erythema nodosum and chorea. Among the 662 rheumatic children there were 42 cases of organic heart disease, but among the 1913 non-rheumatic children only 16 cases of organic heart disease (congenital disease excluded). The probable causes among the non-rheumatic children were measles, whooping-cough, scarlet fever, and follicular tonsillitis.

It is very important to recognise the insidious signs of rheumatism in a child, and attention is called to the view of Dr. F. J. Poynton and Dr. A. Paine that the "only evidence of rheumatism may sometimes be a mysterious and persistent fever." But it must be recognised that the normal temperature of healthy children is by no means settled. An investigation by Dr. Alice W. Maclean in Staffordshire suggests that 99° F. is the true mean temperature of the ordinary school child, and that the range is from 97·2° to 100·6°.

Perhaps the most important aspect of the consideration of rheumatism and heart disease from the school medical service point of view is that of prevention; and in the prevention of rheumatism we are forced to rely largely on the education primarily of teachers and secondarily of parents in an understanding of the significance of growing pains, tonsillitis, chorea, and the vague rheumatic manifestations generally. Teachers are put first because it is comparatively easy to arrange for the consideration of rheumatism and heart disease in courses of hygiene for teachers, but the education of the parents must also be undertaken. This can be done by verbal advice at the time of medical inspection (if too many children are not crowded into one session and if parents attend), by distribution of printed matter, and by home visits by the school nurse or local health visitor. But as far as the distribution of printed matter is concerned this is only likely to be of secondary importance, for the reason that most parents will not trouble to read and understand printed medical instructions. Every medical man is familiar with the fact that very many people will not take pains to comprehend such matters as sick club certificates, vaccination papers, and school medical officers' "cards of advice." Although technically able to read, a large section of the population are not able to understand, and the little effort of mental concentration required to read an unfamiliar document is not put forth. This necessitates an educational campaign of oral teaching of parents, and the place where this can be most effectively done is at a school clinic, where the doctor, with the example of the parents' own child before him, will, at any rate, be sure of interest and of an effort at attention. The school teacher can also do a great deal with the parent, and the importance of dry boots and clothes can be usefully impressed in an object-lesson by having a supply of felt slippers and stoves or fires at which clothing can be dried.

How far children with heart disease should be excluded from the ordinary routine of work, exercises or play is a question that must be decided by reference to the commonsense of school life. Thus, as most children with heart disease will have to earn their own living, it is harmful and not helpful to wrap them round with the cotton-wool of invalidism. Strain should be avoided; swimming is usually contra-indicated, for example, and rough play and running up and down stairs carefully supervised, but ordinary Swedish exercises, with certain exceptions involving violent body movements, are good The teacher must, however, always be on the watch for signs of breathlessness and fatigue. Nothing is said in Sir George Newman's report of an observation that has sometimes been made—namely, that certain children with heart disease are abnormally rough and violent in their play. These cases will prove an extra strain on the teacher. It is also worth noting that one of the manifestations of heart trouble may be bad temper and irritability. As regards treatment, the opinion is expressed that not enough is done by local education authorities, and heart cases almost certainly require more medical supervision than is supplied by the usual re-examination of defective children. An observation clinic is what suggests itself. The report, however, suggests that a residential school of recovery is the best means available for the treatment of heart disease, and hopes that this will have its place in any scheme which is formulated.

School Meals and Nutrition.

The provision of meals for school children is now undertaken on such a large scale that we are justified in forming fairly definite conclusions as to the necessity, value, and limitations of this procedure. We must recognise that while food is the prime requisite for growth and the chief factor in nutrition, stimulation is also required and is chiefly represented by physical exercise and physical training. The beneficial results of open-air schools, for instance, must be ascribed not only to the open-air *régime* and the good food but also to the exercise which is the usual accompaniment of the open-air school routine.

Food and exercise must then be considered, by the school medical officer, together. With regard to the provision of meals the "Board are strongly of opinion that, where the work is regarded merely in the nature of temporary relief to be administered as cheaply as possible only in cases of extreme poverty, the benefits derived are bound to be insignificant and transitory." The report takes a strong line on this subject and definitely lays down that a feeding scheme should hold in view the permanent well-being of the child, and that the selection of children should depend not exclusively upon the poverty of the parents but upon the malnutrition of the child, this malnutrition being as definite a physical defect as any other which comes within the purview of school hygiene.

Before it is possible for the school medical officer to deal with school meals as one of the agencies under his control for treatment of malnutrition, the following conditions, laid down in Sir George Newman's report, must be complied with. The school medical officer must (1) have the right to nominate children for meals who are suffering from malnutrition due to "insufficiency or unsuitability of food"; (2) be consulted as to dietary provided; (3) have the right of inspecting meals at all stages of preparation and distribution; and (4) be consulted in all questions of doubt as to the necessity for retaining a child on the feeding list owing to its physical condition. That these conditions do not prevail in many places is unfortunately one of the commonplaces of school medical work. The Poor-law aspect of the matter, with a strong dash of the Poor-law spectre "deterence," is all too frequently allowed to dominate the educational aspect. We gather from this report that all over the country the organisation of meals is in an early and primitive condition, although the total of meals given and children fed is a figure of large dimensions. Thus in 1912–13 over 19 millions of meals were given in England and Wales, an increase of more than 2¾ millions over the previous year. The number of children fed was over 300,000, and as there are about 10 per cent. of the total 6,000,000 children in attendance at school, or 600,000 suffering from malnutrition, this figure shows that only half of those requiring food are, in fact, receiving it for longer or shorter periods. Each child fed received on the average something over 60 meals, and the period under consideration included the coal strike, which compelled a number of authorities who had not previously done so to enter upon feeding schemes.

How diverse is the practice of different authorities with regard to provision of meals is seen clearly by a glance at the statistical table which sets forth the total expenditure of those who availed themselves of their powers under the Education (Provision of Meals) Act, 1906. Firstly, the table shows that less than one-third of the 317 authorities availed themselves of their powers. Secondly, of those who did make use of their powers, Keighley, Kidderminster, Mossley, Heston and Isleworth, and Kent spent only £4, £5, £8, £8, and £9 respectively, while London, Bradford, Leeds, East Ham, the West Riding of Yorkshire, and Tottenham spent respectively £44,605, £4139, £3348, £1059, £1437, and £959. It is not possible to draw any very definite statistical conclusion from these tables. But when we add to the divergencies of method our knowledge of the lack of ordered medical supervision of the meals and of their inadequacy from the standpoint of nutrition we have to describe the administration of the Education (Provision of Meals) Act, 1906, as very seriously unsatisfactory and only redeemed from wholesale condemnation by the efforts of such authorities as Bradford, who do try to cope with the existing problem as it stands, and not on theoretical grounds. As to the kind of meal necessary there seems very little doubt. A good midday meal is best and should be physiologically calculated to make up the presumed deficiencies of the diet at other times. Experience in secondary schools confirms this, the London report on secondary school feeding being summed up in the words, "Improvement in physique has gone *pari passu* with the improvement of the midday meal."

Physical Training and Juvenile Employment.

Both with regard to physical training and the employment of children under and just over 14 years the sphere of medical inspection is an obviously enlarging one. Field games, swimming, and remedial exercises are matters especially belonging to the school medical officer's province. But the whole of physical training is or should be within the ambit of the organisation of the school medical service. The section dealing with physical training contains a useful and detailed description of exercises and apparatus (with diagrams), and should help on the movement towards greater efficiency in this branch of teaching.

The section dealing with juvenile employment brings out very clearly indeed the evils of this practice. There are no less than 211,000 children under 14 years who at any one time during the year have obtained total exemption from school attendance, and there are 35,000 "half-timers." Apart from this, however, a very large number of children do some kind of work out of school hours and suffer correspondingly with the nature of that employment and the severity of the labour involved. The effects are so grave that the Board of Education suggest that all employed children should be entered upon a special register and examined periodically by the school medical officer as "specials."

Conclusions.

This report is a great searchlight that flashes into the recesses of our social order, and by enabling us to see clearly and in detail what is wrong gives us the opportunity of doing what is necessary to put the wrong right The whole of the report consists of the two things—a display of existing wrong conditions and detailed proposals for the application of knowledge to put those conditions right. It may be, not improbably, that, in a future which has forgotten the party cries and surface turmoil of the present, the application of science to life, which is the great theme of Sir George Newman's report, may appear as one of the outstanding achievements of our generation.

IMPERIAL BUREAU OF ENTOMOLOGY.

THE Earl of Cromer, O.M., as chairman of the Entomological Research Committee, instituted some years ago,[1] has presented his second report to the Secretary of State for the Colonies (the Right Hon. L. Harcourt, M.P.), and has announced that in future a report will be made every year. The chief feature of the work in 1913 has been the actual establishment of the Imperial Bureau of Entomology. It has consequently been decided to discontinue the use of the title "Entomological Research Committee," as confusion seemed likely to arise from the existence of what were apparently two separate organisations in London working at the same subject. The Entomological Research Committee has, therefore, now become the managing committee of the Bureau, and Mr. Guy Marshall, who held the appointment of scientific secretary to the Entomological Research Committee, has been made director of the Bureau, the expenses of which are met by contributions from the Imperial Government, Canada, India, the Australian Commonwealth, the West African Colonies, Zanzibar, and the other Governments concerned. The whole organisation is singularly comprehensive, and is proving of great utility, not only to countries within the Empire, but also to those without. The "Review of Applied Entomology," issued by the Bureau every month, is making satisfactory progress, and the material available for publication is steadily increasing, more especially on the agricultural side.

The Distribution of the Stegomyia Mosquito.

The Bureau has made considerable progress towards obtaining a complete set of the various laws and regulations against injurious insects which have been promulgated in the British Dominions and colonies, and arrangements are now being made to collate and summarise them in a convenient form. The Bureau has also extended the sphere of its activities in another important direction. Major S. P. James, of the Indian Medical Service, was recently deputed by the Indian Government to visit South and Central America and report on the possibility of yellow fever being introduced into India by the increased traffic across the Pacific Ocean which will inevitably follow the opening of the Panama Canal.[2] It appeared from his report that there is little or no knowledge, not only of a sure method of diagnosing the disease, but also of the presence or absence—and of the distribution if present—in eastern lands of the mosquito which is known to convey the disease (stegomyia fasciata). It also appeared that there is a similar want of knowledge as to whether stegomyia scutellaris, another very widely distributed and abundant species of mosquito of the same genus, carries the disease or not, and as to many other matters of capital importance affecting the etiology and prevention of yellow fever. Should it be necessary, therefore, to deal with an outbreak of yellow fever in a new territory, it is evident that this want of knowledge would greatly hamper and delay efficient and enlightened administrative action. The coöperation of the Bureau was invited on behalf of India and the eastern colonies, and the Bureau has undertaken to collect information as to the distribution of the stegomyia mosquito in the countries which are likely to provide ports of call for vessels from infected districts.

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[1] THE LANCET, Sept. 18th, 1909, p. 878; Dec. 7th, 1912, p. 1606.

[2] THE LANCET, Jan. 31st, 1914, p. 329.

As a preliminary measure the Bureau has asked to be furnished with all information available as to the distribution of mosquitoes generally, and of the genus stegomyia in particular, in the French, German, Japanese, American, and Dutch possessions in the Far East and the Pacific, and to be provided with collections of mosquitoes from these localities. The question of sending out an entomologist specially to collect information in those places from which none can now be obtained may be considered at a later date in the light of the knowledge thus gained. Dr. A. T. Stanton has kindly offered to supply the Bureau with collections and data from the Federated Malay States, and has written to various correspondents in the East asking them to do the same. He is shortly visiting Siam and Indo-China, and will utilise the opportunity to further the inquiry. Mr. J. C. Moulton, of the Sarawak Museum, has agreed to assist in Borneo, and Mr. P. D. Montague, of Cambridge, who has just started on a zoological expedition to New Caledonia, has consented to collect mosquitoes both there and in any parts visited *en route*. In Hong-Kong the medical authorities have already made a preliminary mosquito survey.

Glossina Morsitans.

The committee are also taking steps to render assistance in another important direction. Arrangements have been made with Mr. W. F. Fiske, one of the most capable entomologists lately in the service of the United States Bureau of Entomology, to carry out, under the direction of the Royal Society and at the expense of the Government of Nyassaland, a thorough investigation of the bionomics of the tsetse fly, glossina morsitans. In the first instance, however, he is investigating the allied species, glossina palpalis, in Uganda as a preliminary. The committee, with Mr. Andrew Carnegie's consent, are placing at his disposal one of the scholars who are being trained in American methods of entomology with the help of funds provided by Mr. Carnegie for the purpose. It is to be hoped that this will be the beginning of an organised campaign against the various species of tsetse fly throughout Africa, and the committee are now considering whether they cannot render further assistance by employing the two entomologists who are working under their direction in East and West Africa respectively entirely on investigations connected with tsetse flies. It is clear that the discovery of any effective method of dealing with these flies in Africa would have the most far-reaching effects on the prosperity and progress of that continent.

Other Investigations.

The report gives many further details of the work of the Bureau, and also points out that the question of the identification of parasitic hymenoptera is becoming a pressing one owing to their great importance in the control of injurious insects. Unfortunately, the number of reliable specialists working at these groups is extremely limited, and they already have more work than they can do. The committee therefore propose that one or more of the assistants working under the director of the Bureau should devote themselves to this group of insects. For the identification of the African tachinidæ (a very useful family of parasitic flies) the committee have been fortunate in securing the generous assistance of Dr. Villeneuve, of Rambouillet, who has kindly agreed to name all the material submitted to him.

The Secretary of State for the Colonies, in acknowledging the receipt of Lord Cromer's report, expresses high appreciation of the work of the committee and the rapidity with which it is expanding. He adds that he has readily given his approval to increases of staff recommended by the committee, a[illegible] the trustees of the B[illegible] accommodation for [illegible] personal assistants.

MEDICAL SOCIETY OF LONDON:

THE ANNIVERSARY DINNER.

THE 141st anniversary dinner of the Medical Society of London was held at the Whitehall Rooms, Hôtel Métropole, on March 4th. The chair was taken by Sir DAVID FERRIER, F.R.S., the President, who was supported by a large company of Fellows and guests. Among those present, in addition to the speakers mentioned below, were Mr. Martindale Ward, Master of the Society of Apothecaries; Surgeon-General Sloggett, Director-General of the Army Medical Service; Colonel Bruce Skinner, Commandant of the Royal Army Medical College; Sir Alfred Pearce Gould, Dean of the Faculty of Medicine in the University of London; Surgeon-General Arthur May, Medical Director-General of the Royal Navy; Sir Richard Douglas Powell; Professor Howard Marsh, Master of Downing; Sir T. Clifford Allbutt, Regius Professor of Physic in the University of Cambridge; Sir John Tweedy; Mr. D'Arcy Power; Dr. J. Mitchell Bruce; Sir R. Havelock Charles; Dr. Samuel West; Dr. F. W. Mott; Mr. C. A. Ballance; and Sir John Broadbent.

After the loyal toasts had been honoured, the PRESIDENT proposed the toast of "The Medical Society of London," which he coupled with the name of Mr. V. Warren Low, one of the trustees. He made allusion to several early patrons of the society—in particular Lettsom, a founder and generous benefactor, and the two Fothergills, John and Anthony. He voiced the regret of the Fellows that through the illness of Dr. F. M. Sandwith, the delivery of the Lettsomian Lectures for 1914 had been postponed until the summer, and announced that the Fothergill Medal had been awarded this year to Professor J. G. Adami, of Montreal, for his researches in pathology as applied to medicine and surgery. Originally, said the President, their membership was confined to 30 physicians, 30 surgeons, and 30 apothecaries; but now, in its 141st year, the society numbered nearly 700.

Mr WARREN LOW prefaced his reply by maintaining that the records of the society were themselves a better response to that toast than any speech could be. He believed that the Medical Society of London was especially valuable because it provided a common ground in homely surroundings upon which the physician, the surgeon, the general practitioner, and, he might add, the crank could meet and exchange views. He rather deprecated over-organisation and the set discussion wherein the opening speech was often followed by a number of admirable papers quite off the track.

Dr. F. DE HAVILLAND HALL, in submitting the toast of the kindred societies, paid compliments to the 13 presidents who were among them that evening. The friendly competition between their society and the Royal Society of Medicine had been productive of good to them all.

The response was entrusted to Sir Francis Champneys, President of the Royal Society of Medicine, and Earl Russell, President of the Medico-Legal Society.

Sir FRANCIS CHAMPNEYS said that the body which he represented had passed through the storms incidental to the settling down of the 23 amalgamated societies into one working organisation. It was now on the best of terms with the Medical Society of London, which in his matured opinion had done wisely in standing out, for unlike the various constituent societies it was complete in itself and by joining would have disappeared. It was the mother of all the medical societies, and to have swallowed it up would have been matricide and cannibalism.

Lord RUSSELL, in a humorous speech, mentioned the horrible specimens in bottles which were sometimes brought forward by medical members at meetings over which he presided, and the sensational discussions which occasionally embarrassed the mere legal members of the Medico-Legal Society. He concluded by emphasising the need which there was nowadays for the doctor and the lawyer (with whom he included the politician who made the laws) to understand each other better so that they might cooperate for the public good. As an example he quoted the legislative and administrative problems connected with uncertified and uncertifiable lunatics.

Mr. C. B. LOCKWOOD, in proposing the health of the guests, made brief kindly references to each of the visitors, and in particular spoke of the honour which American surgery had paid to British surgery by asking the President of the Royal College of Surgeons of England to help in the inauguration of the College of Surgeons of America.

Sir RICKMAN GODLEE, in response, said that this was the third time he had had to reply for the guests, and it was impossible for him to make three serious speeches upon the same subject before the same assembly, although the approved American method of after-dinner oratory, consisting of an immediate and abrupt plunge into anecdote, had its difficulties.

The Mayor of Marylebone, the Rev. J. A. BEAUMONT, who also replied, related how he himself had started as a medical student. He looked forward to a working partnership in the future between the priest and the medical man. The association between the two professions, now so much less close than in former days, still held out hope of future possibilities.

The health of the President was proposed in affectionate terms by Professor ARTHUR KEITH, F.R.S., President of the Royal Anthropological Institution. Sir David Ferrier and he were born within a mile of each other, he said, and their President used to be held up to him as a model of what a young man should be. Contrary to what some might have said, Professor Keith was sure that it was an advantage in London to have been born in the North. The toast was warmly received, and after Sir DAVID FERRIER had replied the proceedings closed with a hearty vote of thanks to Dr. R. A. Young and Mr. G. E. Gask, the honorary secretaries, and Mr. George Bethell, the registrar, for their successful efforts on behalf of the society.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twentieth meeting of the Royal Commission on Venereal Diseases evidence was given by Mr. C. A. Ballance, chief surgeon of the Metropolitan Police and surgeon to St. Thomas's Hospital.

Mr. Ballance said that the amount of venereal disease among the police was very slight. Formerly police officers reporting themselves sick from venereal diseases were looked upon as defaulters, their pay was stopped usually for a week, and they were generally put on half pay afterwards. In May, 1911, the system was entirely changed, and it was decided that venereal disease should be treated like ordinary sickness. The result has been that most of those affected with venereal disease have reported themselves sick to the divisional surgeon and have not tried to keep it secret. As many cases as can be accommodated are sent to the military hospital, but if that hospital is unable to receive them they are sent to the nearest large general hospital. Mr. Ballance thought that the number of syphilitic patients had increased, but that this was due to the fact that the men appreciated the treatment at the military hospital; he did not think that there was any increase of prevalence of the disease amongst the force. The change of system had had the good effect of securing treatment at an early stage. Out of 83 constables reported as treated at the primary stage at the military hospital only 3 developed secondary symptoms. Out of 116 other consecutive cases only 8 had had clinical relapses. He considered that these figures were quite wonderful.

From his experience at St. Thomas's Hospital Mr. Ballance thought that in recent years there were fewer serious venereal cases than formerly; this he thought was due to the early treatment of the cases instead of their being neglected or untreated, as in the old days. He very much doubted whether the actual prevalence had diminished. Questioned as to the use of salvarsan, he said that in the cases in which he had used it he had never seen any danger arise from it, only good.

Evidence was also given by Mr. Richardson, who said that he was an M.D. of Cincinnati, in behalf of the National Association of Medical Herbalists of Great Britain.

At the twenty-first meeting evidence was given by Dr. Brian O'Brien, medical inspector of the Local Government Board for Ireland. Dr. O'Brien said that for the purposes of his evidence he had visited all the larger towns in Ireland and many of the smaller ones, as well as a certain number of rural districts, and that the impression made upon him was that there was a decline of venereal disease in the country districts and small towns. It was his opinion that venereal disease, syphilis especially, is almost non-existent in the rural portions of Ireland and uncommon in the smaller towns. There was special prevalence in Dublin, and among the causes contributing to this prevalence he mentioned poverty, bad housing, and the fact that Dublin is the refuge of people from the greater part of Ireland who are doing no good for themselves. There was also some prevalence of the disease in Belfast, but to a much less extent than in Dublin. The treatment of the diseases in Ireland at the present time was, he thought, very inadequate. His two main recommendations were that means should be provided for improved diagnosis and that institutional treatment should be subsidised. There would be advantage, he thought, in providing out-patient departments of general hospitals which would be open in the evening, and a considerable number of men might thus be attracted to be treated promptly and efficiently. He was, however, inclined to doubt whether a very large proportion of the women would present themselves for treatment. Dr. O'Brien was opposed to the notification of venereal disease; he did not think that the medical profession would be willing to notify, and if they did fewer people would go to them for treatment.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8484 births and 5497 deaths were registered during the week ended Saturday, March 7th. The annual rate of mortality in these towns, which had been 15·6, 15·0, and 15·1 per 1000 in the three preceding weeks, further rose to 15·8 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 16·7, against 16·5 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·6 in Eastbourne, 8·1 in York, 8·2 in Hornsey, 9·0 in Cambridge, and 9·3 in Willesden, to 21·8 in Ipswich, 22·0 in Bury, 23·1 in Middlesbrough, 24·4 in Warrington, and 24·9 in Rochdale.

The 5497 deaths from all causes were 241 in excess of the number in the previous week, and included 425 which were referred to the principal epidemic diseases, against 397 and 413 in the two preceding weeks. Of these 425 deaths, 134 resulted from whooping-cough, 118 from measles, 60 from diphtheria, 59 from infantile diarrhœal diseases, 34 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week did not exceed 1·2 per 1000, and was equal to that recorded in the preceding week. The deaths attributed to whooping-cough, which had been 129, 110, and 115 in the three preceding weeks, further rose to 134 last week, and caused the highest annual death-rates of 1·4 per 1000 in Tottenham and in Smethwick, 1·5 in Edmonton, 1·6 in Leicester, 1·8 in Devonport, 2·2 in Rochdale, and 2·6 in Darlington. The deaths referred to measles, which had been 89, 115, and 101 in the three preceding weeks, rose to 118 last week; the highest death-rates from this disease were 1·4 in Ipswich, in Nottingham, in Warrington, and in Cardiff, 1·9 in West Ham and in Barnsley, 2·6 in Swansea, and 4·7 in Burnley. The fatal cases of diphtheria, which had been 64, 52, and 72 in the three preceding weeks, declined to 60 last week, of which 16 were registered in London and its suburban districts, and 3 each in Portsmouth, Plymouth, and Birmingham. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had risen from 66 to 83 in the four preceding weeks, fell to 59 last week, and included 23 in London, 5 in Stoke-on-Trent, and 5 in Sheffield. The deaths referred to scarlet fever, which had been 37, 33, and 34 in the three preceding weeks, were again 34 last week; 7 deaths occurred in London, and 3 each in Birmingham, Manchester, and Middlesbrough. The fatal cases of enteric fever, which had been 14, 17, and 8 in the three preceding weeks, rose to 20 last week, of which 4 were registered in London, 3 in Manchester, 2 in Stoke-on-Trent, and 2 in Bradford.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 3599 to 3392 in the five

preceding weeks, had further decreased to 3307 on Saturday last; 340 new cases were admitted during the week, against 428, 351, and 401 in the three preceding weeks. These hospitals also contained on Saturday last 1267 ca
f whooping cough, 99 of measles
1 of small-pox. The 1350 deaths
were 128 in excess of the number
and corresponded to an annual death-rate of 15·6 per 1000. The deaths referred to diseases of the respiratory system, which had declined from 425 to 243 in the five preceding weeks, rose to 260 last week, but were 193 below the number registered in the corresponding week of last year.

Of the 5497 deaths from all causes in the 97 towns, 183 were attributed to different forms of violence, and 402 were the subject of coroners' inquests. The causes of 37, or 0·7 per cent., of the total deaths were not certified either by a
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death, 7 were registered in Liverpool, 5 in Birmingham, 3 in St. Helens, and 2 each in Gloucester, Warrington, Blackpool, and Carlisle.

HEALTH OF SCOTCH TOWNS.

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mortality in these towns, which had been 16·9, 16·5, and

corresponding rate in the 97 large English towns. Among the several towns the death-rate last week ranged from 3·1 in Perth, 8·1 in Hamilton, and 10·9 in Coatbridge, to 19·9
9 in Aberdeen.
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these 73 deaths, 35 *resulted*
diarrhœal diseases,
scarlet fever, 5 from diphthe
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these diseases last week was equal to 1·6, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had steadily increased from 34 to 48 in the four preceding weeks, declined to 36 last week, of this number, 24 occurred in Glasgow, 5 in Edinburgh, and 2 in Ayr. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 8, 16, and 13 in the three preceding weeks, were 14 last week, and included 6 in Aberdeen and 3 in Glasgow. The fatal cases of
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The deaths referred to diseases of the respiratory system, which had steadily declined from 230 to 116 in the seven preceding weeks, rose to 126 in the week under notice, 32 deaths were attributed to various forms of violence, against numbers declining from 36 to 15 in the five preceding weeks.

HEALTH OF IRISH TOWNS

In the 27 town districts of Ireland, with an aggregate
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l 33 which were referred to the principal epidemic diseases, against 26 and 35 in the two preceding weeks. Of these 33 deaths, 12 resulted from infantile diarrhœal diseases, 9 from whooping cough, 4 from measles, 3 from scarlet fever, 3 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·4 per 1000; in the 97 large English towns *the corresponding rate did not* exceed 1·2, while in the 16 *Scotch* towns it reached 1·6 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 8, 10, and 9 in the three preceding weeks, rose to 12 last week, and comprised 7 in Belfast and 5 in Dublin. The deaths referred to whooping cough, which had been 9, 6, and 6
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tutions, and 6 resulted from
The causes of 16, or 3·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, in the 97 large English towns *the proportion of uncertified causes of death did not exceed* 0·7 per cent.

DONATIONS AND BEQUESTS.—By will the late Mr G C Dobell, of Malpas, Cheshire, left £1250 to the Liverpool Royal Infirmary to endow a bed in that institution and £200 each to the David Lewis Northern Hospital, Liverpool, the Royal Southern Hospital, Liverpool, the Liverpool Stanley Hospital, and the Hospital for Women, Shaw-street, Liverpool.—Subject to certain bequests, the estate of the late Mr David Anderson, of Handsworth, Staffordshire, of the value of nearly £15,000, will be divided equally between th
Birmingham General
Queen's Hospital, Bir
for the Blind, Edgbaston.—As the result of a compromise in a recent law suit in which a will was disputed it was decided to give £10,000 to a medical charity, the Jervis-street Hospital, Dublin, being the fortunate institution chosen.—Sir Frank Mappin has sent £1000 towards the Sheffield Radium Fund, which now amounts to over £4000.—Miss Burrell, of Botley, has given a donation of £1500 (additional to £5000 recently given) towards the reconstruction of the Hampshire County Hospital.

ROYAL EDINBURGH MEDICAL SOCIETY: ANNUAL DINNER.—This dinner was held in the society's hall under the chairmanship of Dr W. A. Alexander, the senior President. Mr Rutherford Morison, F.R.C.S., was the guest of the evening, and there was a large and representative company present. After the loyal and patriotic toasts had been honoured, the chairman proposed the health of Mr Rutherford Morison. In response Mr Morison gave some entertaining reminiscences of affairs in the Royal Infirmary during his early years in Edinburgh. He also gave some interesting impressions of Lister. If the vote of the students had been taken at that time as to who was the best surgeon in Edinburgh he was sure that Lister would have taken a back seat indeed. His colleagues had no hesitation in saying that they thought his theories, as they called them, all nonsense, and unworthy of consideration. Very few of the public knew anything about his work, and he was said to have had but few patients. A few at that early time saw that he had something to teach which could not be learnt elsewhere. He himself was a clerk to Lister for three months, and during that time the chief did not operate oftener than once a fortnight. His wards were full—40 to 50 beds—and they were filled with cases of accident, ulcer, tuberculosis, and the few cases which had been operated upon. He was very devoted to these tuberculosis cases, and would keep them in for months. Mr. Morison then reviewed some of the modern developments in surgical science.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of his late Majesty's Order in Council of August 11th, 1903, Surgeon Gerald Arthur Bradshaw has been allowed to withdraw from His Majesty's Naval Service with a gratuity.

The following appointments have been notified:—Deputy Surgeons-General: A. G. Wildey to the *Victory*, additional, for Haslar Hospital, and G. A. Dreaper to the *Vivid*, additional, for Plymouth Hospital. Fleet-Surgeons: W. Jackson to the *Venerable;* E. A. Penfold, P. H. Boyden, M. J. Smith, E. Arkwright, J. Shand (lent), and F. W. Parker (lent), all to the *President*, additional, for Senior Medical Officers' Course, at the Royal Naval Medical School, Greenwich; and E. H. Meaden to the *Impregnable*, temporary. Staff-Surgeon: H. W. B. Shewell to the *President*, additional, for Senior Medical Officers' Course at the Royal Naval Medical School, Greenwich. Surgeon I. S. Gabe to the *Devonshire.*

ARMY MEDICAL SERVICE.

Colonel William G. Macpherson, C.M.G., K.H.P., to be Deputy Director-General, and to be granted the temporary rank of Surgeon-General whilst so employed, vice Surgeon-General W. Babtie, V.C., C.M.G. (dated March 6th, 1914).

ROYAL ARMY MEDICAL CORPS.

Captain Francis M. M. Ommanney retires receiving a gratuity (dated March 11th, 1914).

Surgeon-General W. Babtie, V.C., C.B., C.M.G., has embarked for a tour of service in India.

Lieutenant-Colonel R. W. Wright has been selected for the higher rate of pay under Article 358 of the Royal Warrant of Pay and Promotion. Lieutenant-Colonel A. T. I. Lilly has been granted six months' general leave of absence in India. Lieutenant-Colonel C. W. H. Whitestone has arrived home for duty from India. Lieutenant-Colonel H. C. Thurston, C.M.G., has been transferred from medical charge of the Royal Military College at Sandhurst to the Aldershot Command. Lieutenant-Colonel B. J. Inniss has embarked for a tour of service in India. Lieutenant-Colonel T. B. Winter has been appointed to hold charge of the Military Hospital at Canterbury. Lieutenant-Colonel T. du B. Whaite has embarked for a tour of service with the Third (Lahore) Division of the Northern Army in India.

Major R. L. Popham has embarked for a tour of service in India. Major H. F. Shea has been selected for appointment as Specialist in Advanced Operative Surgery to the Third (Lahore) Division. Major J. S. Bostock has taken up duty at Aldershot. Major E. F. Q. L'Estrange has arrived home for duty from India. Major J. D. G. Macpherson has been appointed to the Northern Command. Major C. B. Martin has been appointed to hold medical charge of the Royal Military College at Sandhurst. Major F. S. Penny has arrived home from Hong-Kong for duty. Major F. E. Gunter has been appointed to the Southern Command. Major C. J. Holmes has been appointed to hold medical charge of the Depôt at Lancaster. Major R. McK. Skinner has embarked for a tour of service in India. Major A. D. Waring has been transferred from the Military Hospital at Hilsea to Gosport. Major J. H. Robinson has taken up duty at Peshawar. Major V. J. Crawford has arrived home for duty from the Military Hospital at Curepipe, Mauritius. Major B. F. Wingate has been appointed to the London District. Major E. E. Powell has been appointed to the Military Hospital at Ambala Cantonment. Major F. M. Mangin has been transferred to Poona Cantonment from the Military Hospital at Allahabad Cantonment. Major E. E. Parkes has embarked for a tour of service in India. Major N. H. Moss has been placed in charge of the Bacteriological Research Laboratory at headquarters, Fyzabad Cantonment. Major L. F. Smith has been transferred from the Military Hospital at Nowshera Cantonment to the Aden Brigade. Major S. A. Archer has arrived home for duty from India. Major M. MacG. Rattray has been transferred from the Military Hospital at Shorncliffe to Woolwich.

Captain T. C. C. Leslie has embarked for a tour of service in India. Captain T. W. Browne has been appointed to hold medical charge at Tipperary Military Barracks. Captain R. Storrs has been appointed to hold medical charge at Dorchester. Captain W. W. Browne has taken up duty at Ahmednagar Cantonment. Captain R. H. MacNichol has embarked for a tour of service at Malta. Captain J. J. O'Keefe has been appointed to the Military Hospital at Chatham. Captain R. Rutherford has arrived home from the Military Hospital at Singapore. Captain J. E. H. Gatt has been transferred from the Military Hospital at Cawnpore to Benares Cantonment. Captain A. H. Hayes has embarked for a tour of service in India. Captain G. W. G. Hughes has taken up duty at the Military Hospital, Plymouth. Captain T. S. Dudding has been appointed to the Bombay Brigade. Captain J. G. Carmichael has embarked for a tour of duty at Malta. Captain N. Low has joined the Colchester District. Captain M. Keane has embarked for a tour of service in India. Captain A. W. Byrne has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary Branch) to the Third Lahore Division. Captain E. D. Caddell has arrived home from Aden. Captain E. C. Stoney has been transferred from the Military Hospital at Shwebo to Bhamo. Captain P. C. Field has been transferred from the Military Hospital at Alexandria to Cairo. Captain A. N. R. McNeill has arrived home from Mauritius. Captain W. E. Marshall has been appointed to Cork District. Captain A. H. Douglass has embarked for a tour of duty in the Sierra Leone Protectorate. Captain W. H. O'Riordan has been transferred from the Military Hospital at Dehra Dun to Rawal Pindi Cantonment. Captain C. H. Denyer has been appointed for duty on board the transport from India s.s. *Plassy*.

Lieutenant E. C. Beddows has been transferred from Kildare and appointed to the Military Hospital at the Curragh Camp. The following Lieutenants have embarked for a tour of service in India: R. Davidson, R. K. Mallam, W. MacNaughtan, D. T. M. Large, M. Burnett, A. Hood, C. J. Blaikie, and J. R. M. Frobisher. Lieutenant R. C. Carlyle has been transferred from London to the Military Hospital at Caterham. Lieutenant G. F. Allison has been appointed to the Military Hospital at Strensall. Lieutenant W. L. Webster has embarked for Egypt. Lieutenant R. E. Porter has been transferred from Cork to Limerick. Lieutenant E. C. Lang has taken up duty at the Military Hospital, Curragh Camp. Lieutenant D. W. Bruce has been appointed to the Third (Lahore) Division of the Northern Army for a tour of duty. Lieutenant C. H. H. Harold has taken up duty at the Military Hospital, Ambala Cantonment, as Specialist in Dermatology and Venereal Diseases. Lieutenant E. G. S. Cane has been selected for appointment as Specialist in the Prevention of Disease in charge of the *Bacteriological Research Laboratory at Colaba, Bombay.*

INDIAN MEDICAL SERVICE.

Surgeon-General W. B. Bannerman, C.S.I., has rejoined at Madras.

Lieutenant-Colonel G. McI. Smith has been appointed Civil Surgeon at Ludhiana. Lieutenant-Colonel W. E. Jennings has been appointed Health Officer of the Port of Bombay. Lieutenant-Colonel B. J. Singh, Inspector-General of Civil Prisons, has been granted combined leave of absence for eight months. The services of Lieutenant-Colonel H. W. Pilgrim have been replaced at the disposal of the Commander-in-Chief in India. Lieutenant-Colonel A. W. Dawson has taken up duty at Roorkee.

The services of Major W. G. Richards have been placed temporarily at the disposal of the Government of Madras Presidency. Major J. W. Watson has taken up duty at Bhopal as Agency Surgeon. Major T. A. Granger has been selected for advancement to the rank of Lieutenant-Colonel. Major R. M. Carter has been selected by the Government of Bombay Presidency for employment in the Civil Medical Department. Major J. R. J. Tyrrell has been selected for appointment as Civil Surgeon to the Khyber District. The services of Major A. Gwyther have been placed temporarily at the disposal of the Director-General for special duty in connexion with an inquiry into leprosy. Major W. Glen Liston, C.I.E., has reverted to his substantive appointment as Director of the Bombay Bacteriological Laboratory. Major J. G. Swan has been selected for appointment as Civil Surgeon at Dalhousie.

Captain C. A. Gill on return to India has been appointed Chief Malaria Officer in the Punjab. The services of Captain E. B. Munro have been placed at the disposal of the Government of Bengal Presidency for employment in the Civil Medical Department. Captain L. Cook, officiating civil surgeon at Sambalpur, has been appointed to officiate as Civil Surgeon at Puri. Captain S. B. Mehta has arrived home on leave of absence from India. Captain C. H. Cross has been appointed Probationary Chemical Examiner to the Madras Government. Captain J. Smalley has been appointed Assistant to the Civil Surgeon at Poona, vice Captain A. F. Hamilton granted leave of absence. Captain F. O'D. Fawcett has taken over Medical Charge of the 1st Gurkha Rifles.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants to be Captains: Sarsfield J. A. H. Walshe (dated Feb. 15th, 1914), and Clarence E. Greeson (dated Feb. 18th, 1914).

Lieutenant John Fraser resigns his commission (dated March 7th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd East Anglian Field Ambulance, Royal Army Medical Corps: Lieutenant Alexander Graham to be Captain (dated Jan. 7th, 1914).

3rd Home Counties Field Ambulance, Royal Army Medical Corps: Lieutenant James Barkley to be Captain (dated Feb. 3rd, 1914).

THE NAVAL MEDICAL SUPPLEMENTAL (COMPASSIONATE) FUND.

It is announced that application will be made in the present session of Parliament for an Act to make better provision with respect to the Naval Medical Supplemental [illegible] *proposed to appoint trustees comprising representatives of* the Admiralty and the Naval Medical Society, to place the control of the Fund under the Royal Naval Medical Club and representatives of the Admiralty, [illegible] al Service [illegible] approved [illegible] widows and [illegible]. Such an [illegible] ts relating [illegible]

THE HEALTH OF THE GERMAN NAVY, 1910-11.

[illegible] report deals with the hygienic [illegible] Navy and the improvements [illegible] dging of the men in the new [illegible] rator rooms, *and ozonising* [illegible] morning and evening com- [illegible] e current required was less [illegible] It was found that when a stream of air was pumped through a bunker the relative humidity indeed fell from 86·2 per cent. to 45 per cent., but the coal dust that was stirred up made the place more uncomfortable than the heat. A new pattern radiator is [illegible] there will [illegible] e cause of [illegible] ents. The [illegible] ven to the men when necessary, just as extra coal to the engines. It is noted with surprise that fish was never issued officially abroad at meal times. Fruit was not allowed to be bought from bum-boats; only apples, pears, and bananas, *fruits* with skins, were got through the canteen, and these were dropped twice into boiling water for five seconds each time before issue. Water from the shore was almost invariably used for washing only. Wash-basins for the individual men are gradually being provided and in time every man will have his own basin. They are kept either in the man's [illegible]

sumption of beer is decreasi [illegible] on board, and if such drink [illegible] occasions the quantity of [illegible] sale in hot countries. [illegible] give lectures to the [illegible]

the dressing stations. Each has had 14 days' nursing training in the sick bay, and they take the wounded into the operation-dressing room to the doctors, and remove them afterwards to the rest space, and they are skilled enough to look after the very severely wounded there. They are also taught to deal with fire smoke and gas difficulties.

MILITARY SURGEONS IN GERMANY: RECOGNITION OF THEIR POSITION AS OFFICERS.

A correspondent writes: "The jubilee year of the Berlin Society of Army Doctors has been marked in dramatic fashion by the German Emperor as supreme head of the Army. General von Falkenhayn, the Minister for War, attended the meeting and informed the assembled medical men that the Emperor by a stroke of the pen had put an end [illegible] tors of whatever [illegible] o has received a [illegible] commanded by [illegible] y doctors in the same ceremonial fashion as combatant officers are now saluted, and doctors in charge of military hospitals will have disciplinary rights over the men under treatment. Nor is this all. On service they will wear the officer's scarf, and they are to be buried with military honours. This is little short of a revolution, for hitherto the 'health officers' have formed a distinct and subordinate class, however eminent might be the professional services rendered by them to the army of which they form so [illegible] precedence, it is [illegible] perial rescript is [illegible] ofession in its [illegible] ng overdue. It is [illegible] *be the forerunner* [illegible] removal of racial [illegible]

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST (VICTORIA PARK HOSPITAL).—The annual court of governors of this institution was held on March 5th, Sir G Wyatt Truscott, Bt., the treasurer, presiding. It was stated that public support had been received in a degree sufficient to sustain the hospital in full activity during 1913. With regard to the relation of the hospital to the proposed centralised control of measures for the treatment and prevention of tuberculosis, the committee will do all in their power to facilitate the association of the hospital with the general scheme under consideration, while retaining its special and voluntary characteristics. The changes which have already occurred have made it evident that the hospital can best fulfil its functions by an extension of the special departments. With this object the committee have in hand the erection of *buildings for a department for* special chest surgery and also for the most modern methods of dealing with diseases of the heart. Improved accommodation will also be provided for radiographic work. On the advice of King Edward's Hospital Fund the committee are greatly extending the balcony accommodation. These works, involving an expenditure of about £15,000, will very seriously tax the resources of the hospital.

LITERARY INTELLIGENCE.—Messrs. Butterworth and Co announce for early publication the revised and enlarged second edition of "Genito-urinary Diseases and Syphilis," by Edgar G. Ballenger, M.D., professor of genito-urinary diseases, Atlanta Medical College, assisted by Omar F. Elder, M.D., and J. *Edgar Paullin*, M.D – *The Oxford* University Press announce "Plague and Pestilence in Literature and Art," by Dr Raymond Crawfurd, illustrated by a series of 31 reproductions of plague-pictures, principally well-known paintings.—Messrs. Longmans and Co. will issue a *series of monographs* on Physiology, under the editorship of Professor E. H. Starling, F.R.S. The size of the volumes will vary from 100 to 300 pages. The following monographs are in preparation: "The Involuntary Nervous System," by Dr. W. H. Gaskell; "The Physiology of Reflex Action," by Professor C. S. Sherrington; "The Conduction of the Nervous Impulse," by Mr. Keith Lucas; "The *Physiological Basis of the Action of Drugs*," by Dr. H. H. Dale; "The Secretion of Urine," by Professor A. R. Cushny; "The Contraction of Voluntary Muscle," by Dr. W. M. Fletcher; "The Cerebral Mechanisms of Speech," by Dr. F. W. Mott; and "The Chemical Mechanisms of Integration in the Animal Body," by Professor E. H. Starling.

three miles away, so they came and paid fees as private patients. Finally, a woman came with her husband and showed a finger with a suppurating nail. According to the law her husband should have been insured; but "he was not going to be bothered, he meant to pay his way as he went along, and he had neither panel doctor nor insurance book."

All these cases came from the neighbourhood of Wimbledon and Wandsworth, and in these districts of the metropolis it will be seen, therefore, that there is resistance against the Act not merely on the part of medical practitioners, but also on the part of members of the general public, including even very poor people.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Liverpool Workhouse.

THE Local Government Board has recently issued a memorandum dealing with the old vexed question of the use and condition of the pile of buildings on Brownlow Hill, comprising the main part of the workhouse and Poor-law infirmary of the select vestry. The memorandum states: "The workhouse and infirmary buildings at Brownlow Hill combine together to form a mixed workhouse of an obsolete type in which adequate classification is impossible, and of which the main imperfections may be summarised as arising out of (*a*) an insufficient site, (*b*) a congested and haphazard arrangement of buildings, (*c*) buildings themselves of an antiquated type, (*d*) lack of open ground, (*e*) danger of fire, and (*f*) defects of heating and drainage. We suggest that the number of persons accommodated in the workhouse site at present is much in excess of what is reasonable or hygienic. Thus the workhouse and infirmary is reported to have accommodation for 2511 inmates—viz., 1223 in the workhouse and 1288 in the infirmary. At the date of our visit, however, the total numbers did not exceed 1684." The document proceeds to deal in detail with the various departments. The buildings themselves, with few exceptions, are of an antiquated and unsuitable character. The inadequacy of the accommodation for the sick constitutes the gravest defect of the institution. In the case of the surgical wards for acute cases an improved standard has been attained, not far short of that attainable in modern infirmaries, a result partly due to the comparative newness of the structure and partly due to the greater elevation of the site, but otherwise it may be said without exaggeration that not a single ward comes up to the standard of modern Poor-law infirmary requirements. Many of the wards occupied by lunatics are virtually a series of cellars or basement rooms, which on one side are entirely below the level of the ground and difficult to ventilate properly. A further defect is the lack of adequate yard space outside the buildings. The memorandum continues: "It is only fair to the medical officers of the institution that we should comment on the patient and resourceful manner in which they have contended with the administrative and other difficulties arising out of the defects and shortcomings of the buildings. Owing to the structural character of the sleeping wards and the lack of day-room space it would not be proper to apply to this infirmary the standard of cubic space per bed (600 cubic feet) laid down by the Cubic Space Committee of 1867 for Poor-law infirmaries in the provinces. It is doubtful whether even the metropolitan standard of 1200 cubic feet would be sufficient in all cases." The officers who have made the report agree in thinking that the only true remedy for the conditions now existing is the reconstruction of the institution as an infirmary only, built on modern lines. Irrespective of the land now occupied by the old infirmary, there would be space for buildings at once with three double partitions, each containing about 200 beds, and a smaller partition containing from 50 to 100 beds, with an administration block of sufficient capacity for the whole infirmary when completed. This would give a total of about 1700 beds, in addition to some 150 beds remaining in the present surgical wards, and would leave the existing infirmary blocks for future reconstruction in sections. When ultimately the whole site had been developed as an infirmary the total accommodation would amount to something like 1200 beds. The Local Government Board report and the question of the remedy are to be discussed at a special meeting of the select vestry of the parish of Liverpool.

Death of Mr. Jerome E. O'Sullivan, L.R.C.P. & S. Edin.

Mr. Jerome Eugene O'Sullivan died on March 6th with distressing suddenness at his residence, 37, Shaw-street, Liverpool. He was a native of Cork and was educated at the Queen's College of that city, and afterwards at Edinburgh, where he qualified in 1879. He had been in general practice in Liverpool for over 20 years. In 1907 he was appointed a magistrate for the city. Mr. O'Sullivan was a great opponent of the National Insurance Act. He was president of the local branch of the Non-panel Union, and threw himself wholeheartedly into the fray against the Act, and many of his friends believe that his untimely demise is due in no small measure to the strenuous life he had been leading lately in the campaign against the Act. He was one of the most familiar figures in the profession, remarkable for his fine presence, courtly bearing, and kindly address.

Liverpool School of Tropical Medicine.

At a meeting of the committee of the school held on March 9th it was decided to appoint Dr. B. Blacklock to the directorship of the Runcorn Research Laboratory. This laboratory was established in 1905 for the purpose of working up the material brought back by the various scientific expeditions which have been dispatched by the school from time to time to the tropics. The rapid accumulation of material and the scientific papers published by workers in the laboratory have made it an important centre for research in tropical medicine, while the collection of living trypanosomes and other parasites causing fatal disease in man and domestic stock in the tropics, maintained at Runcorn for teaching and research purposes, is one of the largest in the world. Dr. Blacklock has had great experience of tropical diseases both in Africa, where he has spent three years, and in this country.

March 10th.

WALES AND WESTERN COUNTIES.

Housing in Newport.

THE population of Newport, Mon., is now approaching 100,000, and has increased during the ten years ending 1911 by nearly 25 per cent. The proximity to the seaboard on the one hand and to the coal-fields on the other is attracting many new industries to the town; one large undertaking about to be established will employ some 3000 men, and other smaller enterprises are being organised. Already 3500 houses in the town are occupied by more than one family, and of the 15,000 houses in the borough only 133 were unoccupied at the end of 1913. In these circumstances the corporation has decided to erect 100 dwellings under the provisions of Part III. of the Housing of the Working Classes Act, 1890, and the medical officer of health, Dr. J. Howard-Jones, is urging the preparation of a town planning scheme which would have to be on a site or sites beyond the boundaries of the borough. At a housing conference of delegates from local authorities in South Wales, Monmouthshire, and Herefordshire, held at Newport on Feb. 26th, the Mayor of Newport suggested that the funds of the Miners' Federation and of the railway workers' organisations might with advantage be used in the promotion of housing schemes. Mr. H. R. Aldridge, secretary of the National Housing and Town Planning Council, urged that the funds of the Post Office Savings Bank might be used for housing purposes, in which case a lower rate of interest would be paid by local authorities who erected houses.

Conditions affecting a High Birth-rate.

At the last meeting of the West of England and South Wales Branch of the Society of Medical Officers of Health held at Swansea, there was a discussion upon the influence of housing conditions and of the ingestion of lead on the limitation of families. Dr. T. E. Francis, medical officer of health of Llanelly, pointed out that where good sanitary conditions prevailed families were small, and he quoted in support of this contention the fact that the birth-rate was much higher in rural than in urban districts. He had found that in Llanelly the ward with the lowest birth-rate had the smallest proportion of tenements rated under £10 per annum, and that in the ward with the largest proportion, 78 per cent., of small tenements the birth-rate was the highest. Dr. J. D. Jenkins, medical officer of health of the Rhondda urban district, considered that overcrowding of houses influenced the birth-rate not in the direction of the limitation of families, but rather in the direction of the increase in the birth-rate by promoting early marriages and by tending to increase the number of illegitimate births. He also agreed that there was some justification for attributing the diminished and diminishing birth-rate in the Rhondda valleys to improved and better housing conditions. On the question as to whether lead poisoning affected the birth-rate, he compared two districts in the Rhondda valleys, one of which is supplied with water having plumbo-solvent qualities and the other devoid of such qualities. In the former area there have been many pronounced cases of lead poisoning, and in the ten years 1903–12 the birth-rate was 37 per 1000, compared with 39·4 per 1000 in the other area. During the first half of the decennium the difference in the two areas was 3·2 per 1000, and in the second half only 1·3 per 1000, and it was during the second half that special measures were taken to remove the plumbo-solvency of the water. Dr. Thomas Evans, medical officer of health of Swansea, was of opinion that the birth-rate was kept up by overcrowding. He considered that when the family of a working man increased and he had to move to a larger house his rental should not be raised.

The "Mortuary" at Princetown.

At an inquest recently held at Princetown (Devon) the medical man who performed the necropsy complained of the "mortuary," which, he said, was an absolute disgrace, being only a little tin-covered building with no window, no place to hang a coat or to wash the hands, with the door wide open to the public thoroughfare. People looked in out of morbid curiosity. The coroner remarked that it was a scandal and said he would communicate with the parish council.

Shortage of Midwives in Devon.

At the meeting of the Devonshire Nursing Association held on Feb. 27th the county medical officer of health, Mr. G. Adkins, drew attention to the shortage of trained midwives in Devonshire. Mr. Adkins stated that there were 200 untrained midwives in the county and only about six of these carried out the rules of the Central Midwives Board. The condition was really appalling, but the Public Health Committee had sent the names of many of these women to the Central Midwives Board, and they had all been removed from the roll, and a like course would be followed in the case of others.

Bristol Medical Dramatic Club.

The Bristol Medical Dramatic Club recently gave their thirty-sixth annual performance, when *The Upper Crust* was played on five occasions at All Saints Hall, Clifton, the performances being given in aid of the Bristol Eye Hospital. The comedy was ably rendered to a large and appreciative audience.

The late Dr. John Ernest Paul.

The funeral of the late Dr. J. E. Paul took place at Torquay on Feb. 17th, and was largely attended by the local members of the medical profession. Dr. Paul, who received his medical education at University College Hospital, London, qualified L.R.C.P. Lond. and M.R.C.S. Eng. in 1890, and graduated M.D. Lond. in 1892. After holding resident appointments at University College Hospital Dr. Paul settled in Torquay, where he became honorary physician to the Western Hospital for Consumption, Erith House, Rosehill Children's Hospital, &c. Dr. Paul was highly respected, and he will be much missed in Torquay.

March 10th.

IRELAND.

The Royal Colleges and the Working of the National Insurance Act.

LAST autumn complaints were made to the two Royal Colleges of Ireland as to alleged unprofessional conduct of certain Licentiates of the Colleges in the carrying out of the duties of the offices which they had accepted under the National Insurance Act. It was alleged that in the course of examining members of Approved Societies who were claiming sickness benefit some medical advisers or referees had not only visited patients under the care of other practitioners without the knowledge of the latter, but had commented adversely on the treatment given. The Colleges have so far postponed investigations of specific complaints, but have thought it wise to suggest rules of conduct by following which friction might be avoided. A joint committee of the Colleges was appointed, which after long deliberation made certain recommendations. The Colleges have now expressed their views in the following unanimous resolutions, which have been promulgated to the several Fellows, Members, and Licentiates.

Resolved—

That in the opinion of the Royal Colleges of Physicians and Surgeons, Ireland, the existing arrangements for obtaining evidence of incapacity, entitling to benefit under the National Insurance (1911) Act, have given rise to serious abuses.

In forming a judgment as to whether a person is "incapable of work" it is essential, alike in the interests of the public and of the claimant, that the fullest possible information as to the medical condition of the claimant should be before the person whose duty it is to adjudicate on the claim. This information is, as a rule, in the possession only of the claimant's medical attendant.

The Colleges are of opinion that medical certificates under the Insurance Act should be accepted only if given by the claimant's medical attendant, if any, unless such medical attendant refuses to certify.

If the Body claimed against desires to review a certificate, the Colleges are of opinion that the medical referee should have before him the certificate originally given by the claimant's medical attendant, and should give such medical attendant sufficient notice of the time and place of examination, and an opportunity of stating the grounds on which he arrived at the opinion expressed in his certificate.

Resolved—

That the manner in which the duties of the office of "medical adviser," either to the Insurance Commissioners or Approved Societies, are being discharged at present in many parts of Ireland is contrary to medical ethics, and deserving of punishment by the Colleges.

In thus warning their Licentiates of the danger they may run the Colleges have rightly interpreted their function of preserving the interests of the public and safeguarding the honour of the profession. They have shown, too, that they are more anxious to guide medical men in the right way than to punish those who, perhaps from lack of forethought, have erred. This expression of opinion by the two Colleges must have weight with the authorities in considering the future working of the Act.

A Radium Institute for Dublin.

The Royal Dublin Society is taking steps to establish a radium institute in Dublin, Lord Iveagh having contributed £1000 towards the cost of the purchase of additional radium. It is hoped that radium treatment may be made available both for hospital and private patients under convenient conditions.

Health of Belfast.

At a meeting of the city council of Belfast held on March 2nd the report submitted as to the health of Belfast between Jan. 18th and Feb. 14th showed that 262 cases of infectious disease had been notified, including 192 of scarlet fever, as compared with 288 in the previous four weeks, and only 150 in the corresponding period of 1913. The total death-rate from all causes was very high—22·4 per 1000, as well as that from chest affections—9·0 per 1000, while the death-rate from zymotic diseases was 1·5.—A delay has arisen in entering upon the practical work of the tuberculosis scheme of the corporation owing to some hitch in regard to the transference by the board of guardians of the Abbey Sanatorium to the Belfast city council. The corporation blames the board of guardians while the latter in reply say they are not in any way responsible for the delay that has taken place, which "had been occasioned entirely by the corporation and its officials." The Local Government Board will have to settle the matter.

Dispensary Doctors' Salaries.

The finance committee of the Belfast board of guardians has agreed to recommend that the salaries of the dispensary doctors in the Belfast union, as well as all the visiting medical officers of the workhouse, shall be increased. The report is to be considered at a further meeting of the board of guardians.

Ulster Medical Society.

On the evening of March 5th the President of the Ulster Medical Society (Mr. A. B. Mitchell) and Mrs. Mitchell gave a most enjoyable "At Home" in the Medical Institute, Belfast, to the Fellows and members of the Ulster Medical Society and their wives. The lecture-room of the institute was furnished as a drawing-room, and here Mr. and Mrs. Mitchell received their guests. An admirable programme of vocal and instrumental music by the "Beethoven House Orchestra" was provided during the evening, while Mr. M. Davies also gave some selections, which were much appreciated. Refreshments were provided in the library and there were card tables in the billiard room. The evening passed off most successfully and was greatly enjoyed by the very large company who were present.

March 10th.

BUDAPEST.

Trials of Friedmann's Anti-tuberculous Treatment in the Budapest Clinics.

INDUCED by the favourable results which were reported last October in Germany by Dr. Schleich, Dr. Müller, Dr. Thalheim, Dr. Immelmann, and Dr. Kraus, after they had given a fair trial to Dr. Friedmann's treatment, the medical staff of some Budapest hospitals resolved to employ it in their wards. On Dec. 2nd and 3rd Dr. Friedmann himself performed inoculations in the St. Stephen and the St. Rochus Hospitals, both of which supply clinical material for the purpose of medical education. The President of the Interhospital Medical Society has invited Dr. Havas, professor of dermatology, to exhibit 14 cases of tuberculous disease of the skin which are under his care, and have been treated by Friedmann's remedy. The inoculations were made early in February of this year; the cases were shown in the untreated state, and they will be shown again in from eight to ten weeks, when their treatment will be finished.

A New Method of Treating Warts.

Dr. Felix Szontagh, of Budapest, recommends a new and simple method of treating warts. It consists in covering the wart and the surrounding skin, to the width of 1 centimetre, with ordinary caoutchouc plaster, and leaving it so covered for weeks—even, if necessary, for two or three months. Whenever the plaster becomes loose it must be removed and replaced by a new piece. As a rule the plaster is to be changed once in three or four days. Any adherent residue of the caoutchouc is to be removed with ether or petrol, care being taken that the wart or the surrounding skin shall not be rubbed energetically, because irritation of the skin is not conducive to the disappearing of the wart. Dr. Szontagh says that he cannot explain the action of this simple method and how it produces such excellent results from the cosmetic point of view, but it is certainly efficient. Perhaps the caoutchouc contains some substance which softens the wart and causes atrophy.

Proposed Neutrality of Balneary Centres and Health Resorts in Case of War.

The *Magyar Balneologiai Ertesitö (Hungarian Balneological Journal)* publishes an article by Professor Kisch, one of the greatest balneological experts in Austria. I see that your Berlin correspondent has briefly alluded to the communication. It was originally sent to Professor Arpád Bokay, president of the Hungarian Balneological Society, with the request that if Dr. Bokay approved of the proposal he would approach the Ministry of Foreign Affairs in support of it. Professor Kisch had already written on the subject in 1866, when military operations were taking place in the immediate vicinity of the world-renowned Bohemian balneary towns, Carlsbad, Marienbad, and Franzensbad. One year later the question was brought before the Bohemian legislature in the form of an interpellation, and then the Governor asserted that he sympathised with the idea, but that the question could only be settled by joint international action. In 1896, at the International Congress of Associations for the Nursing of the Wounded, Professor Langenbeck, the head of the medical department of the Prussian army, proposed that the Congress should communicate to the governments of the different countries its opinion that in case of war all health resorts should be declared neutral, and should be utilised for the accommodation of sick and wounded soldiers. During the long peace which followed the Congress the matter was in abeyance, but now, when rumours that peace is likely to be broken are frequent, the question has been revived, and Professor Kisch thinks that it would be worth while to consider the matter again. Of course, an extension of the Geneva Convention would be absolutely necessary. If this could be done it would be a great advantage to sick and wounded soldiers, because in the Austrian balneary towns alone there are about 100,000 beds, at least the half of which could be occupied by soldiers. The health resorts would not lose by this arrangement, because the cost of the soldiers' food and housing would be repaid by the State, and thus a good part of the loss suffered by the proprietors on account of the war would be compensated. Dr. Kisch says that all unions and societies formed for the purpose of nursing sick and wounded soldiers ought to unite with the Hungari
make co
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March 2nd.

BERLIN.

Decrease of the Birth-rate.

THE constant decrease in the birth-rate in Germany has for some years past created considerable uneasiness in both political and medical circles. The causes of this are not yet very clearly ascertained, and a variety of opinions have been expressed regarding it. Some authorities consider that the birth-rate depends only on economical reasons; it is alleged that the protective tariff, which has increased household and personal expenditure in this country, has induced the working-class population to limit the number of their children because they are unable to bring up large families. Others say that the decrease in the number of children is a sign of culture; in nations of a high cultural standard—as, for instance, in France—the average number of children is small, whilst in nations of a lower standard, such as Russia, there is no intentional limitation of the number of children in a family. Moralists complain that the increase of luxury, especially among the upper classes, has the effect of inducing women to abstain from having children, who are regarded as a burden. It is moreover stated that of late years the sale of anticonceptional appliances in Germany has become an actual scandal. These things were formerly almost unknown among the peasantry and the working population, and were used only by the well-to-do classes. Nowadays agents sent by the manufacturers of these articles visit the homes of the working classes both in town and country and induce them to buy these appliances at extremely high prices. At the entrance gates of factories, collieries, and mines persons are employed to distribute pamphlets containing warnings against producing too many children owing to the expenses connected with them. Legislative measures are therefore believed to be necessary for the repression of those evils, and the Roman Catholic party in Parliament has now brought forward a Bill for that purpose. According to the terms of the Bill the Federal Council is to be empowered to limit or prohibit altogether the sale of anticonceptional drugs and appliances, as far as they are not at the same time useful to prevent venereal infection. The importation of these drugs or instruments from abroad is also to be prohibited, and when they have been imported the Federal Council shall have the right to seize them even if the importer is not under German jurisdiction. The advertisement of such drugs and instruments is to be made a criminal offence, punishable by a fine not exceeding 1500 marks, or by imprisonment for six months. Exception is made in the case of medical and pharmaceutical journals. The Bill is at present under discussion in a committee of the Reichstag. The majority of the press is opposed to it, and a number of Professors of the University of Berlin have been asked their opinion by a leading newspaper of that city. Nearly all of them have declared that the proposal is open to the objection that a considerable number of instruments and pharmaceutical preparations used for the prevention of conception are also used as safeguards against venereal infection, and to prohibit the sale of them would result in an increase of venereal diseases. Gonorrhœa being a well-known cause of sterility, any increase of that disease would tend to depress the birth-rate, so that an effect contrary to that desired by the promoters of the Bill would eventually be produced. The anticonceptional preparations and appliances would continue to be sold at an advance over the present prices owing to the sellers being liable to punishment. It is certainly true that so complicated a question as the decrease of the birth-rate cannot be solved by police measures, and the Bill, which will inevitably interfere with the personal rights of individuals, may be dropped.

Health of the French and German Armies.

According to the French newspapers the health of the French army, especially in the garrisons near the eastern frontier, is by no means good owing to the existing barrack accommodation being unable to meet the extra demands made on it in connexion with the recent sudden increase of the army. These newspapers, moreover, assert that measles, scarlet fever, influenza, and cerebro-spinal meningitis are prevalent in those garrisons. In January, when the number of the French army was 717,415 men, 44,192 had been treated in the sick rooms of barracks and 21,570 in the military hospitals, of whom 280 died. As some French journals have published statements to the effect that a similar unsatisfactory state of affairs existed in the German army, the Minister of War was asked in Parliament whether the reports were true or not. He answered that in January, when the number of the German army was 771,100, there were 20,044 men who had been treated in the sick-rooms of barracks and 18,610 in hospitals, the number of deaths having been 113, including accidents and suicide. This is all the more satisfactory as the recruits numbered 60,000 more than in former years, and it is remarkable that of the recruits who came to the army last autumn only 4 per cent. had up to Feb. 1st been discharged on account of illness.

Death of Professor Joachimsthal.

The early death of Dr. Joachimsthal, professor of orthopædic surgery and director of the orthopædic clinic in the University of Berlin, is much regretted. He was born at Stargard in Pomerania in 1863, and studied medicine at the University of Berlin. Having passed the State examination he became an assistant in the orthopædic clinic under Professor Julius Wolff, who was well known by his important researches on the structure of bone. In 1898 Dr. Joachimsthal was recognised as *privat-docent*, and in 1902 he was appointed professor. In 1908 he became the successor of Professor Hoffa as director of the orthopædic clinic, and held this appointment until his death, which was due to an apoplectic seizure. His work was concerned almost exclusively with orthopædic subjects, and his essay on functional alterations in the form of the muscles was "crowned" by the Academy of Sciences in Paris. His great treatise on orthopædic surgery has become a standard work in Germany. With the late Professor Hoffa he was the co-editor of the *Zeitschrift für Orthopädische Chirurgie*, and after the death of Professor Hoffa he was the only editor of that journal, for which he wrote numerous articles on different subjects. He was the permanent secretary at, and several times the president of, the Congress of Orthopædic Surgery. His amiable and unassuming disposition endeared him to his professional brethren, so that his death is universally mourned.

March 9th.

ROYAL WEST OF ENGLAND SANATORIUM, WESTON-SUPER-MARE.—The annual meeting of the subscribers of the Royal West of England Sanatorium was held on Feb. 21st. The medical report showed that during 1913 1472 male and 1133 female patients were admitted; of this number 952 had been cured, 905 much improved, and 537 improved. 9000 warm sea-baths had been given during the year under trained supervision and had been much appreciated. The financial statement showed that the income amounted to £4897, and had the claim for refundment of income-tax, about £40, been met before the closing of the accounts, there would have been a small favourable balance in hand. During the past year the electric light has been installed in the sanatorium, at an expenditure of over £1000. The whole of this sum has been raised by the efforts of the lady superintendent, Miss Mawe.

Obituary.

ROSWELL PARK, M.D., LL.D.,

PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO.

THE distinguished American surgeon, Dr. Roswell Park, died at Buffalo on Feb. 15th at the comparatively early age of 62.

Roswell Park was born in Pomfret, Connecticut, in 1852. His father was a clergyman. Both his father and mother were descended from distinguished American families. An ancestor, Colonel James Baldwin, was a member of the staff of General Washington, and was present in that capacity at the crossing of the Delaware. Dr. Park was educated at Racine College, Wisconsin, which was founded by his father, where he graduated in arts in 1872. He studied medicine in the North-western University, Chicago, and after graduating spent two and a half years as an interne in two of the largest hospitals in Chicago. When only 25 years of age Dr. Park began his career as a teacher. At first he was demonstrator in anatomy in the Woman's Medical College of Chicago. He was next made assistant professor of anatomy in the Chicago Medical College. After studying in Europe, chiefly in Vienna, for a year, he was appointed lecturer on surgery in Rush Medical College, Chicago. In 1883 he was appointed professor of surgery at the University of Buffalo, New York, which he held up to the time of his death.

Dr. Park was a many-sided man. He was cultured, musical, and one of the best writers of English among the medical men of the United States. He wrote the Mather Lectures on Surgery, an Epitome of the History of Medicine, a "Practice of Surgery," and edited the serial work, "Surgery by American Authors." He was the author also of several essays. Dr. Park received the honorary degrees of LL.D. from Yale University, of M.A. from Harvard University, and of M.D. from Lake Forest University. He had been President both of the American Surgical Association and of the Medical Society of the State of New York. He held a non-resident professorship in the Army Medical School, Washington, and was a visitor to the West Point Military Academy.

When President William McKinley was shot at the Pan-American Exposition in Buffalo in 1901 Dr. Park was with the wounded President to the end, but he was best known for his researches on cancer, and it was wholly by his instrumentality that the New York State Cancer Laboratory, known as the Gratwick Laboratory, of which he was the Director, was established in Buffalo. Dr. Park was a popular man, of a gentle, tender, and generous nature. He numbered his friends by hundreds throughout the English-speaking world.

FRANCIS VACHER, F.R.C.S. EDIN., M.R.C.P. EDIN., J.P.,

CONSULTING SURGEON TO THE WIRRAL HOSPITAL FOR CHILDREN.

WE regret to announce the death of Mr. Francis Vacher, which took place at Port Said on Feb. 25th.

Mr. Vacher, who was the son of Mr. Thomas Brittain Vacher, was born at Brompton, London, on Feb. 13th, 1843, and therefore had just entered his 72nd year when he died. He was educated privately, and having a penchant for art, studied along lines which his bias suggested at Kensington and in Germany. Later, however, he turned his attention to medicine, and at the age of 21 went to Edinburgh and took the double qualification of the Royal Colleges. He was a student at the university, but did not graduate in medicine. In 1866 he was appointed house surgeon at the Royal Maternity Hospital, Edinburgh, and a year after he took a similar post at the borough hospital in Birkenhead.

In 1873 he was appointed medical officer of health and public analyst to Birkenhead, and it was in this year that his early midwifery experience led him to invent a pair of forceps which he described in the Liverpool and Manchester Medical and Surgical Reports. He took the F.R.C.S. of Edinburgh in 1878 and the M.R.C.P. in 1882. In 1893 he was appointed medical officer of health and later medical inspector of school children for Cheshire, which post he resigned four years ago. Mr. Vacher made many contributions to medical literature, including a paper on the use of "Blood Serum as a Therapeutic" in 1876; "Notes on the Epidemic of Small-pox at Birkenhead in 1877"; and a paper on Exanthemata and some Allied Diseases, in which he dealt with the duration of the latent period. His contributions on public health included "The Food Inspector's Handbook" (1892), "A Healthy Home" (1894), and many others, among them being "Public Baths," "Defects in Plumbing and Drainage Work," and "The Dead Body as a Source of Infection." He was also the author of "Seduction in Edinburgh." Mr. Vacher was a Freeman of the City of London, a Past Master of the Tallow Chandlers' Company, and a member of the Court of Assistants. It is interesting to note that this old city company, whose foundation dates back to the early part of the fifteenth century, had powers to search for and destroy all bad and adulterated oils, and no member of the company was allowed to mix "deceitful" tallow with the best tallow.

Mr. Vacher was one of the founders of the Birkenhead Medical Society and had been President. He had also been President of the Incorporated Society of Medical Officers of Health. He was made a justice of the peace for the Wirral Division in 1910. He was a Fellow of the Royal Sanitary Institute, a Fellow of the Chemical Society, and a member of the Société Française d'Hygiène.

Mr. Vacher, who had recently been in indifferent health, decided to take a voyage to the Holy Land with his wife, a daughter of the Rev. John Mollan Bleckley, whom he married in 1899, and his two daughters. He left England on Feb. 13th, by a coincidence his birthday, but caught a chill during the voyage, and, as already stated, died at Port Said, where he was buried.

EDWARD DORSET FARMAR BRINGHURST,

F.R.C.S. EDIN., F.R.G.S.,

MAJOR A.M.S (RETIRED).

BY the death of Major Farmar Bringhurst, which took place on Jan. 30th at St. George's Hospital, after an operation, an interesting and varied career was brought to a close. Born in 1854, Major Bringhurst was the eldest son of the late Lieutenant-Colonel W. M. Farmar, of Bournemouth. He received his medical education at St. George's Hospital, at the University of Edinburgh, and at Paris. He qualified by becoming L.R.C.P. Edin., L.R.C.S. Edin., and L.M., in 1877, proceeding to the F.R.C.S. Edin. in 1880. In the year in which he qualified he was appointed medical officer to a party of seven persons who visited Australia on behalf of the Government of Victoria to report as to the possibility of building a canal from Melbourne to Hobson's Bay, and after visiting the Gold Diggings, Tasmania, and New Zealand, he returned to England. Later he went to India, and subsequently in 1881 joined the Army Medical Service as a surgeon.

In 1882 he volunteered for active service in Egypt, in the Arabi rebellion, and after the bombardment of Alexandria was attached to the cavalry brigade at Ismailia under Lord Wolseley and H.R.H. the Duke of Connaught. For his services he received the Egyptian medal and the Khedive's Star. In 1883 he went to South Africa for five years, serving in Capetown, Natal, and Zululand. In 1888 he was appointed to the charge of a field hospital in Zululand, was present at the operations against Dinizulu, and saw the last shot fired in connexion with the closing scene of the Zulu rebellion. In 1889 he went to India, where he served for several years. In 1891 he was appointed to the medical charge of Bhamo, on the Chinese frontier. Later he was placed in charge of Shwebo, and received the thanks of Brigadier-General G. B. Wolseley, C.B., for his care of the sick and wounded from the Wuntho column, after the operations against the Swabwa of Wuntho. In 1895 he served on the Malabar coast of India, and organised the medical arrangements for British troops sent from Wellington to the Nilgiris, against the Moplahs in the Malapuram district. He returned to England in 1896, and was stationed at York headquarters as company officer, retiring from the army in 1898. He was elected a Fellow of the Royal Geographical Society in 1899, having, in the previous 20 years, travelled more than 200,000 miles over ocean and land—roughly about eight times the distance round the world.

ROYAL DEVON AND EXETER HOSPITAL.—The annual meeting of the governors of the Royal Devon and Exeter Hospital was held on Feb. 26th. The medical report stated that during 1913 the in-patients admitted were 1680, and 3957 out-patients were treated, as compared with 1754 in-patients and 5033 out-patients in 1912. The daily average number of occupied beds was 152, the average stay 33 days, and the cost per occupied bed £65 13*s.* 5*d.* The financial statement showed that the ordinary receipts amounted to £10,687, and the excess of ordinary expenditure over ordinary income amounted to £1654. It was decided to initiate a throat, nose, and ear department, and the necessary rooms will be fitted up in the out-patient department.

EDGAR ALLEN INSTITUTE.—Reference has been made in recent years in these columns to the Edgar Allen Institute for Medico-mechanical Treatment, 77, Gell-street, Glossop-road, Sheffield. The committee now announce that unless they [illegible] financial assistance t[illegible] it will be compelled [illegible]xt. The institute was founded chiefly for the benefit of the wage-earning classes, and with the view also of introducing into this country the Zander method of treatment, which has been successfully practised on the Continent for many years. The building and the equipment were the gift of Mr. W. Edgar Allen to the city, and he also held himself responsible for the cost of upkeep during the first three years of its existence. Up to Dec. 30th last 1388 patients, chiefly from the working classes, were admitted. The expenditure is about £1600 per annum, towards which certain fees, amounting to about £700, are received. The institute is under the immediate care of a medical director, Dr. R. G. Abercrombie, with a trained Swedish staff, and patients are received for treatment only upon the introduction of a medical man.

Correspondence.

"Audi alteram partem."

SYPHILIS AND "MENTAL DEFICIENCY."

To the Editor of THE LANCET.

SIR,—The recent appointment of the Royal Commission on Venereal Diseases and the passing of the Mental Deficiency Act have stirred up public interest in these subjects, and it is no matter for surprise that any evidence tendered regarding a causal connexion between syphilis and mental defect should attract popular notice. Many persons interested in these matters are likely to accept inferences drawn from imperfect and unchecked observations as scientifically established conclusions. I have lately heard more than one person of prominent position make the assumption that mental deficiency has been proved to be chiefly caused by syphilis, either congenital or acquired; and that the problem of the etiology of mental defect had thus been approximately, if not wholly, solved! It is not my purpose to discuss the question of the rôle of syphilis in causing certain cases of mental defect, or of the Wassermann process being a scientifically established test for the presence or absence of the syphilitic virus. I desire rather to call attention to the necessity for exercising the greatest caution both in the observation of facts and in the method of interpreting them before making public any doctrine or implication that syphilis is a predominant cause of mental defect generally.

It is now widely known beyond medical circles that the Wassermann test has led to the discovery of the probable existence of the syphilitic virus in many cases which show no clinical signs of syphilis, the *disease;* and that, as a consequence, the pathogenic field of syphilis tends to become rapidly enlarged. In fact, at the present moment, the etiological question of the relation of syphilis to mental deficiency generally seems to turn almost wholly on the proper use and valuation of the Wassermann test, and on the proper use of the scientific method in endeavouring to ascertain how far syphilis may rightly be regarded as a causative factor in the production of mental defect in cases thus tested which show a positive reaction. For it must be remembered that, apart from this test, which is believed frequently to reveal unsuspected syphilis, and apart from its promiscuous application at the present time to large numbers of mentally defective cases, many of which are admitted to be of very slight degree, the actually wide question now under consideration would not have arisen.

More or less recently published records of cases where the Wassermann test has been applied to idiotic, imbecile, and many other "mentally defective" children show highly varying results as to the frequency of a positive reaction, this variety being probably due to dissimilarities between cases examined, methods used, and persons observing, as well as to other conditions. A record of two groups of mentally defective children thus examined by Dr. K. Fraser and Dr. H. F. Watson was published in the *Journal of Mental Science* for October, 1913, showing that a little over 46 per cent. of all these cases gave a positive reaction. One group of cases, numbering 89, consisted mainly of "defective" children attending "special schools"; the other, numbering 105, of out-patients at the Royal Hospital for Sick Children, both in Glasgow. Only slightly over 16 per cent. of these cases showed *clinical* signs, or "stigmata," of syphilis. It is also stated in this report that about the same proportion of positive reactions was found in epileptic children *without mental defect.* The chief conclusions drawn by these writers from their joint observations as a whole are (1) that "syphilis is *the causative* factor in a very considerable percentage of cases of mental deficiency of whatever degree of severity, as it is present in over 50 per cent."; and (2) that "syphilis is also the main *causative* factor in the production of that type of epilepsy which manifests itself at early ages." It is necessary to comment now only on the first of these conclusions.

That this conclusion is wholly unwarranted by the facts adduced needs no detailed demonstration. Granting the accuracy of the test and the facts generally, nothing is shown but that in about half of the cases examined some degree of mental defect co-existed with evidence of the presence of the syphilitic virus. In the other half of the cases examined the test was mainly "negative," but in a few "doubtful." It is true that Dr. Fraser examined 23 "normal" children as "controls," and finding that 19 gave a "negative," 2 a "positive," and 2 a "doubtful" result, regarded this observation as "significant," in spite of the smallness of the number examined. But it is clear that this number is far too small to be of any value in lending support to the conclusion arrived at, that syphilis is *the causative* factor of at least half the cases of mental defect in children; and it must be remembered that 8 per cent. of the *normal* "controls" showed a *positive* reaction. It is surely necessary, before even entering into any discussion of a causal connexion between syphilis as evidenced by the Wassermann test and mental defect generally, to ascertain the frequency of the positive reaction in large numbers of children of similar status and condition who, by common consent, can be classified as of good or average mental capacity. And it is equally clear that, whatever might be the result of this preliminary observation, the inquiry into the validity of this particular hypothesis of the causation of "mental defect," in the wide sense of this term employed by the writers, would not, from the point of view of scientific method, be far advanced, but only just beginning.

It has been said above that there are very great discrepancies between the results obtained by many different observers who have applied the Wassermann test to cases of "mental defect." We have seen that Dr. Fraser and Dr. Watson claim very positively that they have *proved* more than the concomitance of syphilis and mental defect in over half of the 194 cases examined. They assert that the one is the *cause* of the other. With their result must be contrasted that of an inquiry (referred to by themselves) which was based on the examination of 2061 cases of mental defect by *four* observers.[1] This research showed a percentage of only 1·5 cases with a positive reaction to the test.

Even assuming that the Wassermann process may be regarded as an absolutely scientific test for the presence of syphilitic infection, it is clear that at present no positive conclusions as to the relations of mental defect to syphilis can be drawn from any accounts hitherto published. Further, there has been hitherto, as far as I am aware, no attempt made to ascertain the frequency of positive reaction to the test in the blood of large numbers of individuals of similar conditions to those composing the special groups under investigation, but to whom "mental defect" cannot be attributed.

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[1] See Berliner Klinische Wochenschrift, 1911, xlviii., p. 891.

And with regard to the Wassermann test itself, especially in view of the wide-reaching and important conclusions which are now being positively drawn from its results, it must be remembered *that experience has shown, and is showing, the great* frequency of disagreement between observers concerning the facts observed. Cases have occurred where the same blood has been examined by three different experts in hæmatology, with the respective results of "positive," "negative," and "doubtful"; and it is known that the issue of the observation is often doubtful when the individual is under treatment. In relation to any question respecting the pathogenic action of syphilis, and notably in cases where practical and public interest and action may be concerned, there is clearly great reason to pause before accepting the facts and, by consequence, the inferences of those who promulgate practical doctrine on the strength of their use of the Wassermann process alone.

I am, Sir, yours faithfully,

March 7th, 1914. H. BRYAN DONKIN.

⁂ In connexion with Sir Bryan Donkin's valuable and suggestive letter we refer readers to the prefatory statements in Dr. Carl Browning's description of the technique of the Wassermann reaction, published in this issue of THE LANCET. Dr. Browning points out that "the limit of reacting power which differentiates a positive serum from a negative one must be arbitrary, and requires to be fixed by experiment for any given combination of 'antigen' and serum."—ED. L.

THE TREATMENT OF INCIPIENT AND UNCONFIRMED INSANITY.

To the Editor of THE LANCET.

SIR,—Your excellent leading article on this subject voiced a spirit of caution, and I venture to think that you expressed the feeling which many who have had much experience in lunacy administration hold. If it is a fact that the dread of lunacy certificates prevents the early treatment of acute mental disease, then by all means do away with them if possible. But is it a fact? Are people now prevented from being properly treated through the fear that if so treated they will be certified? To some extent this seems undoubtedly true. The *objection* of the public to certificates of insanity is easy to understand, and in its way this hesitation is useful because it tends to retard the premature interference with the liberty of the patient; but my experience is that where the danger of delay is fully explained to the friends, the difficulty of getting them to see the necessity for certification disappears.

Certificates are framed primarily for the protection of the patient, though at times the safety of the public and the interests of the family may be the primary factors; and I have often found that this question of "slur and stigma" depends largely upon the attitude of the patient towards his friends, for the moment he becomes troublesome or threatening or inclined to squander money all the qualms about "stigma" suddenly disappear and are replaced by urgent clamours for the protection afforded by certificates. What really frightens the friends is the word "insanity," not the mere certificates, but the idea that there is brain disease in the family, and they use all sorts of subterfuges for putting others off the scent. The patient is either "neurotic," or "neurasthenic," or "hysterical," or has "had a nervous breakdown," or he has "brain fever," anything to save the word "insanity," and the dread of certificates and registration is mainly due to the fear that by these processes the fact of insanity in the family will become widely known. Of course, certificates are the official cachet of the fact that insanity exists, and this may be one reason why the friends are so opposed to them, and much as they dislike the idea of insanity in the family they dislike still more the official stamp of it.

Have we *in the course of medical progress* arrived at the time when there is less need for certificates? Are the conditions of to-day so much more favourable for the treatment and the safety of the patient that certificates are less necessary than formerly? If so, I confess that I see no outward sign of it. Only last year on urgent medical and lay representation a new Act was passed to include under compulsory restraint many who it appears cannot even now be entrusted to the care of their friends, and powers are given in this new Bill to provide new institutions and officials to work them! The Board of Lunacy Commissioners has been increased and new duties of supervision thrown upon it. Does this look as if the late methods erred on the side of stringency? Does Dr. Armstrong-Jones suggest that any considerable number of the certified acute mental cases under his care could, with advantage to themselves, be released from their certificates and might dispense with the inquisitorial care of the Commissioners, and does he look forward to a time when the powers of the latter will be less needed?

Dr. Armstrong-Jones uses very forcible expressions about "slur and stigma," but it must be supposed that he is guided in his remarks by hearsay evidence, because his patients are *already certified* when they come under his care, and so (I hope it will not be thought irrelevant of me to say it) he has not the opportunity of seeing the very early cases whose treatment without certification he earnestly advocates. Do the friends of the patients under Dr. Armstrong-Jones's care express to him their objection to the mere fact of certificates, or is it that what they really object to is the detention in an "asylum," and *is it probable that their objections* would disappear if the patients were in a "mental hospital" or "home" without certificates or supervision? The friends of patients who are in institutions under certificates ought to know that they can always remove them on giving guarantee of responsibility. How often do they do this? Medical men in private practice know that the proposal to certify a patient is generally coldly received, and there is no doubt that *in the doctor's desire to meet* the friends' wishes many patients are allowed to be at large who would be better placed under certified care, and one result of this is that "accidents" happen. I believe that medical men have the greatest objection to signing certificates, looking upon them as indicative of the failure of treatment, just as a good surgeon shuns operating if he can possibly help it, and views it as the last resource in the interest of the patient, *all other treatment* failing. The question now arises whether the friends of patients ought to be allowed to enforce their objections to certification when treatment cannot be adequately carried on at home. In the case of infectious disease there must be notification, and, *nolens volens*, the patient is promptly carried off to a special hospital, and though it cannot be suggested that private cases of incipient insanity should be notified, it does not seem undesirable that if a patient is in a state fraught with danger to his mental integrity he should be denied proper treatment because of a sentimental objection to his being safeguarded! There are, in fact, cases where the measures which are freely allowed in infectious disease should be extended to mental conditions when these assume symptoms of a force dangerous to the patient or the community, and it is open to doubt if mental hospitals can be successfully carried on without some means of detaining the patient if he refuses to stay, for it is notorious that the voluntary boarder system breaks down in the very cases where one desires most to try it. The patient simply will not sign the request for admission, though knowing that he can voluntarily leave at a few hours' notice.

The proper treatment of insanity is daily becoming more complicated and individual, and, moreover, it is very expensive. I doubt if, except for the wealthy who can afford to have the aid of special advice and of any known form of treatment, it can be carried on successfully in the small private homes to which Dr. H. Rayner, in his letter to you of Feb. 7th, so properly objects. The question is full of difficulties. If—as seems to be now held—there is a demand for hospitals for the treatment of incipient insanity where no certification and no inspection is required, by all means let the demand be met, because it may turn out that we have been unnecessarily cautious, and that certification and registration are mere bogies to which we have accorded undue reverence, but I doubt if the public will be really satisfied unless there is some guarantee that the Lunacy Commissioners sanction all that is done in them. People generally have no idea of the numberless ways in which certificates and the supervision of the Commissioners protect the patients, and how they ensure that no new treatment nor anything out of the common shall be attempted before the consent of the friends is obtained.

Once certificates and supervision are abolished there is no limit to the machinations of unscrupulous persons, and many people who are now going about freely owe more than they think to the fact of the safeguard of certificates, as but for them many would certainly find themselves in captivity. I know of such cases. I should like to see the French plan of "*conseil de famille*" introduced into this country—an arrangement by which the members of a family meet in conclave, discuss the *pros* and *cons* of the case, and then act in concert. It would prevent much bickering and misunderstanding.

Brain disease when it constitutes insanity is a terrible thing for a family, and all must sympathise with any proposal which shall relieve the patient and friends from the fear of its being known. Therefore it is fitting that if the certificate does stand in the way of early treatment—a statement which is, I think, much exaggerated—the trial of a method by which free and unimpeded treatment may be obtained should be seriously contemplated. In the meantime is it altogether wise to join the chorus of those who keep on reiterating the words "slur and stigma" in connexion with certification? Surely, knowing the security afforded by these safeguards, we should use every endeavour to reassure the public and to make them see that certificates are but the legal expressions of a condition which already exists, and that it is not the certificates which make the insanity, whilst the difficulties and the dangers in the making of them are all in favour of delay in their employment except when other means have failed to cure or safeguard the patient.

We want the public to understand that we are quite ready to make trial of the new experiment, but perhaps under certain conditions, some of us think, such as notification and some degree of supervision, questions upon which the opinions of the Commissioners in Lunacy ought to have the greatest weight. I am, Sir, yours faithfully,

Weymouth-street, W., March 2nd, 1914. T. CLAYE SHAW.

A COMPARISON OF THE ACTIONS OF CHLOROFORM AND ETHER ON BLOOD PRESSURE.

To the Editor of THE LANCET.

SIR,—A paper by Dr. H. P. Fairlie, anæsthetist to the Royal and Western Infirmaries, Glasgow, appeared in THE LANCET of Feb. 28th, the last paragraph of which reads as follows: "Based on those observations I think that ether is the anæsthetic of choice for short operations or for those operations where little shock is anticipated, while chloroform is better for prolonged operations and for those where considerable shock is anticipated."

I am tempted to reply to his paper as it appears to me that he arrives at certain conclusions based on those observations which in the light of present knowledge are most certainly erroneous. He has fallen into the common error that low blood pressure causes shock and is synonymous with it. He accepts Crile's theory of shock, "that it is a condition resulting from a fall in general blood pressure due to exhaustion of the vaso-motor centres." This theory has been proved to be untenable by numerous observers. Seelig and Lyon have shown that stimulation of the central end of the cut vagus causes a rise of blood pressure, and that the rise occurs even when the animals are deeply shocked, showing that the vaso-motor centre is still perfectly active.

Numerous other observers, approaching the subject from different points of view, have shown that the vaso-motor centres, far from being easily exhausted in shock, do their duty practically to the end. In this country Malcolm has written profusely on the subject, and many of his ideas on blood pressure and shock are generally accepted. The Malcolm *versus* Mummery controversy is still green in the minds of those who are interested in the subject.

I quite agree with Dr. Fairlie that a sudden fall of blood pressure during an operation may well mean shock and may be due to the anæsthetic, but I fail to see how he can attribute a fall of blood pressure, in which there is practically no change in the pulse-rate nine hours after the operation, to the ether which he administered during the operation. There may be other explanations (see Chart 4). He gives us no clinical data as to the condition of the patient apart from the blood pressure—one man with a blood pressure of 100 may be *in extremis*, while another may be little affected; this shows the error of considering blood pressure as synonymous with shock. Judging from the Charts 3 and 4 in Dr. Fairlie's paper I would not expect that either of the cases would be classified as operations which had involved a severe degree of shock.

Referring to the post-operative condition he writes as follows: "At a time when it is of vital importance that patients should make use of all their resources, after chloroform anæsthesia they are better able to do so than after ether." If Dr. Fairlie is correct it means that almost every surgical clinic in the world is wrong, and that practical experience has gone for nothing. Chloroform has had its day—open ether has ousted it completely. Chloroform is much the more toxic drug; it is more difficult to administer safely and is much more conducive to shock. All experience goes to support this statement. Chloroform should never be used alone, and never as the terminal anæsthetic. Whenever I see it administered I always think what a foolhardy procedure it is—a highly dangerous drug is being administered in quite unknown doses. I can hardly conceive a condition, at any rate in hospital practice, in which there is any excuse for administering it. In a few clinics chloroform is still used in special cases as an introduction to open ether, but I am doubtful if it is advisable in many of those cases.

Scotland, the home of chloroform, stuck to its own far longer than was justifiable. I am glad to see it banished or nearly so. We have much to learn from the American surgeons on the subject of anæsthesia. They are ahead of us, and the further west you go the further on they are. Just as open ether has displaced chloroform, so it in its turn is being displaced by nitrous oxide and oxygen, a combination which is suitable in a large percentage of cases. Undoubtedly it has disadvantages. It requires special apparatus and special knowledge, but its advocates can say of it that it is the safest general anæsthetic known, being practically nontoxic.

Gas and oxygen when combined with local anæsthetics and sedatives according to Crile's anociassociation method[1] is claimed to have solved the problem of shock. The technique is complicated, requiring time and trouble, but I do not think that there is any doubt that the results justify the proud claims that have been made for this method. It is certainly a great advance, and I would suggest that Dr. Fairlie should compare his charts with those of Bloodgood, published in the Annals of Surgery, December, 1913, in which anoci-association method has been carried out.

In the light of present knowledge it is hardly fair to subject patients whose ability to stand an operation of very great magnitude is highly problematical to a more dangerous anæsthetic than gas and oxygen properly administered; and anæsthetists highly trained in the use of gas and oxygen are much needed for major operations. As to Dr. Fairlie's recommendation to start with ether and continue with chloroform, surely in spite of all theories to the contrary this is exceedingly bad advice. I have had more frights when seeing this method carried out than any other. Your anæsthetist, unfortunately very frequently quite inexperienced, is requested to administer ether by the open method. Owing to his faulty methods he fails to keep the patient under sufficiently, and on being remonstrated with pours in a liberal supply of chloroform; the patient, who is breathing deeply under the influence of the ether, rapidly gulps down a large dose of chloroform, a highly toxic drug, and the result is just what one would expect, the patient's respiration or circulation fails. I fully realise that the above sequence of events is not so likely to occur in the hands of an expert.

I may say I have substituted my chloroform bottle in my midwifery bag for a larger one which contains ether, and I have every reason to be satisfied with the change. All honour to the discoverer of chloroform, but his discovery has had its day, and I hardly think that Dr. Fairlie will resurrect it by his blood pressure observations.

I am, Sir, yours faithfully,
G. MCCALL SMITH, M.B., Ch.B. Edin.,
F.R.C.S.Edin.
Perth, Feb. 28th, 1914.

PAROXYSMAL TACHYCARDIA IN A CHILD.

To the Editor of THE LANCET.

SIR,—In your issue of March 7th is recorded a case of this kind which was shown at the Royal Society of Medicine. Dr. G. A. Sutherland, I see, asked what was the prognosis. Little, I think, is known on this point, and therefore it may interest your readers to know that a patient whom I saw when she was 11 years old, and described in the Clinical Society's Transactions, vol. xxx., in 1897, is now a stewardess on an Atlantic liner. I believe Dr. Sutherland, who was my colleague at the Paddington Green Children's Hospital, saw her with me at the time. I am, Sir, yours faithfully,

W. P. HERRINGHAM.
Wimpole street, W., March 9th, 1914.

GANGRENE OF THE INTESTINE.

To the Editor of THE LANCET.

SIR,—The case of acute suppurative appendicitis complicated by gangrene of the ileum published by Mr. Basil Hughes in THE LANCET of March 7th is of interest from more than one point of view.

In the first place, the condition of anæmic gangrene which obtained is one of great rarity when it involves the intestine. In a recent monograph[1] I was able to collect 9 cases only of anæmic infarction of the intestine; of these cases 6 and possibly 2 more involved the ileum.

With regard to the pathology of anæmic infarction of the intestine one may say that no entirely satisfactory hypothesis has been brought forward to explain all the facts, though it appears that a gradual cutting off (*e.g.*, by endarteritis, arteriosclerosis, or atheroma of the mesenteric branches) of the arterial circulation is an important factor. Embolism alone in practically all cases leads to hæmorrhagic lesions ranging from a few petechiæ on the one hand to infarction on the other.

A second interesting feature of Mr. Hughes's case is the history. There appears to have been a period of relative freedom from symptoms after the acute onset. This "latent" period was followed by further acute manifestations. The course of events therefore was more in accordance with what one might expect in a case of
due to venous thrombosis a
appendix than in one of a
intestine.—I am, Sir, yours faithfully,

LESLIE B. C. TROTTER, M.A., B.C. Cantab.
Ledbury, Herefordshire, March 9th, 1914.

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[1] THE LANCET, July 5th, 1913, p. 7.

[1] Embolism and Thrombosis of the Mesenteric Vessels.

puffiness in the tissues round the knee, but the joint itself remained perfectly free from any swelling or effusion. The effect of putting the leg up in the straight position was seen when the pain and puffiness subsided in about 10 days and the leg could be flexed; it was then found that movement was as limited as before, the adhesions apparently having united again. Three weeks from the date of the first attempt I had the performance repeated, but this time had the leg left as strongly flexed as was possible, passive movements being started 48 hours afterwards and continued daily. The course was just as free from trouble as before, though the pain was greater on account of the passive movements. However, in three weeks' time I was walking about with a useful limb, and to-day, seven years afterwards, I can flex it to about two-thirds of a right angle—i.e., sufficiently for most purposes.

Though hæmophilia is a rare disease I bring this point forward, as it is one of considerable importance to a hæmophilic. Movement may be so limited in a joint by adhesions that if the surgeon through over-caution fears to break them down, the sufferer is perforce compelled to live a crippled and perhaps an invalid existence. Whereas if it is recognised that movement may safely be restored then the patient may be able, as I was, to follow his profession once more and earn his own living.

I am, Sir, yours faithfully,

March 3rd, 1914. HÆMOPHILIC.

THE NATIONAL INSURANCE ACT.

MEDICAL CARDS RETURNED BY THE DEAD LETTER OFFICE IN MIDDLESEX.

THE Middlesex Insurance Committee finds that out of 206,484 medical cards sent by post to insured persons 12,054 have been returned through the dead letter office, and a still larger figure is given with regard to insured persons not traced by the committee. Naturally the county is one in which a large proportion of the working population is continually on the move either within the county or to places beyond its boundaries. The committee proposes to appoint a registrar at a salary of £200 a year to deal with the matter.

BOROUGH OF LAMBETH INSURANCE PRACTITIONERS' ASSOCIATION.

At a meeting of the executive committee of this association held on Feb. 28th recommendations were drawn up dealing with the allocation of insured sick persons in Lambeth who have not chosen a panel doctor. A report of the working of the association was presented by the honorary secretary. This report will be presented to the general meeting of the association to be held at the Horns Hotel, Kennington, on Tuesday next, March 17th, at 9.30 P.M., when Dr. C. Addison, M.P., has consented to attend and address the meeting on the present position under the Insurance Act. Insurance practitioners from other districts are invited to attend, and admission will be by private card.

THE LONDON INSURANCE COMMITTEE AND INQUESTS.

Coroners in London have been requested by the Home Office to arrange for the London Insurance Committee receiving information as to cases of deaths of insured persons in which they are likely to be interested.

"SURPLUS FUNDS" IN LONDON.

Mr. H. Bazett, of St. Mary's-terrace, Paddington, and Dr. A. R. Eates, of 12, Thayer-street, Manchester-square, are organising a meeting to be held at the house of the latter on Tuesday next, March 17th, at 3 P.M., in response to a large number of letters they have received from panel doctors who are interested in the manner of dealing with these funds proposed by the London Insurance Committee. The object of the meeting is to take concerted action to test the legality of the proposed action of the committee. All panel doctors with small lists are cordially invited to attend.

NATIONAL MEDICAL UNION.

At a meeting of the London Organisation Committee of the National Medical Union held at 346, Strand, on March 9th, the following resolutions were passed unanimously:—

1. That the London Organisation Committee of the National Medical Union repudiates the action of the Metropolitan Counties Branch of the British Medical Association in attempting to elect a Local Medical Committee for London which would be unrepresentative of the profession and prejudicial to the interests of non-panel practitioners.

2. The London Organisation Committee of the National Medical Union recommends practitioners not on the panel to refrain from nominating candidates, allowing themselves to be nominated, or otherwise taking part in this election.

The secretaries were instructed to forward copies of these resolutions to the press, and also to circularise all medical practitioners resident in the county of London and not on the panel on the subject.

The circular is signed by Mr. E. Arthur Dorrell and Dr. Robert Carswell as honorary secretaries of the National Medical Union.

MANCHESTER INSURANCE COMMITTEE.

Mr. L. Lloyd Jones, chairman of the finance sub-committee, brought forward at a recent meeting of the Manchester Insurance Committee his resolution announced some time ago, "that the medical sub-committee be requested to investigate and report not later than September next as to the desirability or otherwise of establishing a full-time medical service for insured persons and their dependents at the commencement of the year 1915." The mover relied upon the allegation that insured persons were not getting the attention to which they were entitled from very many of the medical men on the panel. He contended that the system adopted encouraged the undertaking of too many patients and an excessive number of visits and consultations and did not encourage the prevention of disease. The societies had to pay sickness benefits upon certificates too easily obtained. He referred to the figures published with reference to the past year as showing £162,284 claimed by medical men as against £150,040 allowed, claims for £12,244, which he estimated as representing over 110,000 visits, being disallowed. He referred to the unequal amounts payable to the various members of the panel and to the large sums earned by several of them, also to the position of the druggists as affected by a disallowance of 110,000 consultations. He advocated a full-time medical service with an income limited to £800 a year. Discussion took place in which Dr. McGowan pointed out that the circumstance of congested districts existing was responsible rather than any fault of the medical practitioners for the conditions complained of; and an amendment was moved by Mr. H. W. Irwin that "the Medical Subcommittee be requested to investigate and report not later than September next on the present system of medical service, and if such system is found unsatisfactory to recommend some alternative system." This was carried unanimously, Mr. Jones withdrawing his resolution. Another resolution was passed at the same meeting instructing the Sanatorium Subcommittee to furnish detailed returns showing (1) number of insured persons applying, medically examined, and recommended for sanatorium benefit; (2) number of cases of tuberculosis receiving treatment; and (3) results in cases receiving treatment.

Sickness in Industrial and Agricultural Districts.

The sickness returns of the Manchester Unity of Oddfellows show the difference between the conditions of industrial and agricultural districts, provision for which is made at a uniform rate by the Insurance Act. The actuarial estimate of sickness benefit is given as 9*s.* 9*d.* for men and 6*s.* 6*d.* for women, the former having proved sufficient and the latter too low. The actual cost in the case of men is found to be in Lancashire 8*s.* 11*d.*, Cheshire 8*s.* 4*d.*, and Kent 6*s.* 11*d.*, and in the case of women in Lancashire 8*s.* 8*d.*, Cheshire 7*s.* 4*d.*, and Kent 5*s.* 5*d.*

Medical Incomes under the National Insurance Act.

The incomes from insured patients earned by medical men practising at Bradford may be compared with the figures given in THE LANCET of Feb. 28th, p. 649, for Manchester and Leeds. At Bradford during the past year seven medical men earned between £1000 and £1500, two between £800 and £1000, both of these making less than £900, 15 between £500 and £800, 32 between £300 and £500, and 13 between £250 and £300, and 29 made less than £50. From this it will be seen that 45 making between £250 and £500 a year represented a considerable portion of those on the panel, the total of which was 117. The largest income was made by a practitioner with 4000 patients on his list and no partners, with which may be compared the list of 5177 credited to one medical man on the panel in London. In the metropolitan district out of an average total of 909 medical men upon the panel, 172 have lists of more than 2000, the number which the Insurance Committee desires to establish as a limit, 340 have been 1000 and 2000, and 500 have less than 500.

The West Riding Insurance Committee.

At a recent meeting of the West Riding Insurance Committee it was stated that the number of patients admitted to sanatoriums was 641. A considerable amount of work was being done in the treatment of consumption, but difficulty was being experienced in the finding of suitable ground for the erection of sanatoriums. A prolonged discussion took place upon the question whether a list of the medical men upon the panel with the number of their patients should be supplied to each member of the Insurance Committee or only to members of the Medical Benefit Subcommittee, as recommended by the latter body. The amendment which proposed that the information should be given to the whole committee was strongly opposed by medical members, but was eventually carried by a large majority.

The Limiting of Panel Practice.

With regard to the limiting of the number of patients to be undertaken by any member of a panel, the proposal of the Medical Benefit Subcommittee at West Bromwich may be mentioned, as differing in form, if not in principle, from others which have been observed. The subcommittee recommended that in accordance with the Insurance Commissioners' opinion no arbitrary limit should be fixed, but that there should be a resolution of the Insurance Committee that it was undesirable that one practitioner should undertake more than 2500 persons, and also that in the present and in future years allocations for the purpose of distributing surplus funds should not cause the number of persons on any medical man's list to exceed 2500.

Bournemouth Insurance Committee.

In the report of the Sanatorium Subcommittee presented to the Insurance Committee at Bournemouth the following figures relating to the period from Jan. 15th, 1913, to Jan. 11th, 1914, were given. Number of persons who had applied for and received sanatorium treatment 75, 38 being men and 37 women; cost of institutional treatment for 25 men and 27 women, £825; cost of domiciliary treatment for 40 men and 31 women, £725. The Medical Benefit Subcommittee reported that medical treatment had been supplied to 126 temporary residents. The same body recommended that the report of the committee considering the question of malingering be waited for before steps should be taken in the matter of apppointing a medical referee. Upon this a discussion took place with regard to medical referees and the question of malingering, the appointment of a referee at Bristol and its results being referred to. A speaker, Mr. Bartlett, spoke of the stories of malingering as exaggerated, and said that in the society which he represented payments in respect of sickness benefit during the past 18 months had, if anything, been less than in previous periods. The chairman suggested that returns from various societies would be desirable before any conclusion was arrived at, and further consideration of the question was postponed.

West-end Hospital for Nervous Diseases.—The annual meeting of governors of this institution was held on March 3rd, the chair being taken by Mr. Leonard Brassey, M.P. It was reported that the income for 1913 amounted to £7430, as compared with £6798 in 1912 The total expenditure was £7907, as compared with £6350 in 1912; but repayment of debt and such items accounted for £1792 of this, compared with £408 in 1912. An average of six additional cots had been maintained in 1913. The debt had been reduced from £5431 to £3660. Patients treated in the wards numbered 273, and the average duration of their stay in hospital was 62 days. New out-patients numbered 2521, and the total of out-patients' attendances was 29,046. The total of massage and electrical treatments given was 22,091, against 19,030 in the previous year. By the exercise of much care the weekly cost of an in-patient had been reduced to £1 11*s.* 7*d.*, and the cost per out-patient visit to 10·35*d.* The urgent need of the extension and rearrangement of the hospital was universally recognised, but a large sum was required before building operations could be commenced. Appeal was made for aid to extinguish debt, for rebuilding the hospital, and for maintaining the annual subscriptions.

Medical News.

University of Cambridge.—The following medical degrees have been conferred :—

M.D.—P. H. Bahr, Trinity; and R. M. Courtauld, Pembroke.
M.B., B.C—H. W. Willcocks, Caius; E. J. Bradley, Jesus; and A. C. Clifford, Emmanuel.
M.B.—J. M. Jarvie, Emmanuel.

The Senate of the University are voting to-day (Saturday), at 2 P.M., whether application shall or shall not be made for a Government grant for the assistance of the medical department of the University. A *non-placet* notice has been circulated, with some important signatures, which sets out the alleged risks of putting the teaching of the University under Government control. All medical members of the Senate are therefore earnestly requested to support the Grace by their votes, and fly-sheets have been issued to the Senate of an unusually forcible kind. All the professors and lecturers in medical subjects append their names to a refutation of the *non-placet* circular; a second fly-sheet is signed by the professors, readers, and lecturers in allied subjects; while a third fly-sheet, supporting the views of the Medical Board, is bound to have great influence with the constituency, as it is signed by 47 of the best known among the teachers of the University "unconnected with those departments which are concerned with the teaching of medical students."

Royal Medical Benevolent Fund.—At the February meeting of the committee 26 cases were considered and grants amounting to £278 voted to 23 of the applicants. Appended is an abstract of the cases relieved :—

Widow, aged 58, of M.R.C.S., L.S.A. Since husband's death about a year ago has supported herself as nurse companion but has recently been obliged to give up the post and requires assistance whilst obtaining another; children unable to help. Voted £5.—Widow, aged 45, of M.R.C.S., L.R.C.P. Receives a small sum quarterly as payment for the practice but requires a little help for unavoidable expenses; two children, aged 16 and 14. Voted £5.—M.D. St. Andrews, aged 76. Has done excellent work as visiting physician to different institutions but has never had much private practice and has now come to an end [illegible] the infirmities of old age. [illegible] 61, of M.R.C.S., L.R.C.P. [illegible] r children and is now quite unprovided for. Voted £12.—Daughter, aged 32, of L.R.C.P., L.R.C.S. Used to be a mental nurse, but for several months past has been in very bad health, and is ordered a change which she cannot afford. Voted £10.—Widow, aged 59, of L.R.C.P., L.R.C.S. Irel. Supported her husband during a long illness, and is now quite broken down in health; children unable to help. Voted £18.—Widow, aged 58, of L.R.C.S. Edin. No income; precarious earnings from needlework and letting lodgings and slight help from children. Relieved five times, £6. Voted £12.—Daughter, aged 66, of late M.R.C.S., L.S.A. Was comfortably provided for by her father, but was defrauded by her trustee, and is now dependent on a small annuity from a charitable society. Relieved three times, £48. Voted £12.—Widow, aged 83, of M.R.C.S., L.S.A. Has a small income, but is obliged to ask for assistance owing to the afflictions of her children, three of whom are deaf and dumb. Relieved 11 times, £70. Voted £10.—Widow, aged 65, of M.R.C.S. After husband's death endeavoured to establish a boarding house at the seaside, but lost all her capital. Now has a situation as cook, but feels she is unequal to the work, which is very hard. Relieved three times, £36. Voted £12.—Widow, aged 47, of L S.A. Two children, aged 11 and 9, and finds her small income insufficient for unavoidable expenses. Relieved once, £5. Voted £12.—Daughter, aged 58, of late M.R.C.S. Is mentally afflicted and obliged to live under supervision at the expense of two sisters, who each have to earn their living. Relieved nine times, £81. Voted £10.—M.D. Edin., aged 53. Met with a severe accident two years ago, and is not able to support himself again; dependent on a widowed sister whose income is small. Relieved once, £12. Voted £18.—Widow, aged 67, of L R.C.P., L.R.C.S. Edin. Supplements a pension from a charitable society by teaching and letting lodgings, but has had her rooms empty for several months and has incurred unavoidable expenses through the illness of her daughter, who is a governess. Relieved 14 times, £102. Voted £10.—Daughter, aged 47, of late F.R.C.S. No income, and incapacitated by gastric ulcer. Relieved 15 times, £129. Voted £12.—Daughter, aged 53, of late F.R.C S. No income and such indifferent health that she finds it most difficult to get a situation and impossible to retain one. Relieved eight times, £52. Voted £12—Widow, aged 45, of M.B., C.M. Edin. Left unprovided for at husband's death after a long illness; seven children, of whom three are self-supporting and the remainder dependent. Only income £12 a year from another society. Relieved twice, £32. Voted £20.—Daughter, aged 57, of late M.R.C.S. Health so indifferent that she can only earn a few shillings a week and is practically dependent on this Fund and [illegible] six times, £95. Voted £18.—Widow, aged [illegible] her right hand several years ago, and has fou[illegible] to obtain employment; slight help from chi[illegible] £118. Voted £12.—Widow aged 46, of L.S.[illegible] for at husband's death three years ago and endeavours to support herself by letting lodgings at a seaside resort, but has had a very bad season. Two children, aged 10 and 8. Relieved once, £5. Voted £10.—Daughter, aged 62, of late M.R.C.S. Only income a small Government annuity purchased a few months ago with a legacy, and suffers from a permanent affliction which renders occupation practically impossible. Relieved three times, £36. Voted £6.—Widow, aged 40, of M.B., C.M. Aberd. Only income a small monthly grant from another society, and is incapacitated by a chronic complaint. Two children, aged 14 and 13. Voted £12.—Daughter, aged 42, of late M.D. St. And. Has supported herself for some years by massage, but broke her right forearm some months ago and is still incapacitated. Relieved twice, £20. Voted £10.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

University of Oxford.—The following appointments have been made: Dr. Walter Ramsden, University Lecturer in Chemical Physiology; Mr. A. P. Dodds-Parker, University Lecturer in Applied Anatomy: and Dr. S. E. Whitnall, University Demonstrator of Human Anatomy.

Exeter Dispensary.—The annual meeting of the subscribers of the Exeter Dispensary was held on Feb. 26th. The medical report stated that the number of recommendations made was 3732, against 4654 in 1912, the decrease being due to the National Insurance Act. The financial statement showed a diminution in subscriptions, and a deficit of £390 remained at the close of the year.

Devon and Exeter Dental Hospital.—The thirty-fourth annual meeting of the subscribers to this institution was held on Feb. 27th. The report showed that 3231 cases had been treated during 1913, making a total of 144,931 since the foundation of the hospital. The financial statement was satisfactory. The committee states that through the kindness of Mrs. Nosworthy, who contributed £500 for the scheme, a fund has been inaugurated for granting assistance to deserving patients requiring artificial teeth.

Radium for Use at Manchester.—At a meeting on March 9th of the general committee dealing with the administration of the radium which it is proposed to purchase for the Manchester hospitals it was decided that the Manchester Royal Infirmary is to be the place where the radium should be stored. It was also agreed that the board of management of the Royal Infirmary should consider the propositions put forward by the scientific members of the general committee with regard to the administration of radio-emanations and report to a further meeting of the committee.

Royal Portsmouth Hospital.—The sixty-fifth annual meeting of supporters of this hospital was held in the Town-hall on Feb. 27th. The report stated that there had been an increase of 8 per cent. in the in-patients, a decrease of 13 per cent. in the out-patients, and a falling off in the casualties of 12 per cent. This experience agreed with that of other voluntary hospitals. The ordinary expenditure had been a record, £9606; and the ordinary income had also been a record, having amounted to £7528, leaving a deficit of £2078. Legacies had been received to the amount of £1200, reducing the deficiency to £877. The hospital had been approved under the National Insurance Act for the reception of suitable cases of tuberculosis, for which the Local Insurance Committee were empowered to pay. Satisfaction was expressed at the formation of a pathological department, which would enable the hospital to keep abreast with advances in medical science, and extend its work in the direction of research.

Imperial Health Conference.—Several questions of interest to the medical profession will be considered at the Victoria League Imperial Health Conference and Exhibition to be held at the Imperial Institute in May next. A special section will be devoted to the Care of Child Life, and amongst those who have promised papers are Dr. Charles A. Hodgetts, medical adviser to the Commission of Conservation in Canada; Dr John McCullough, chief medical officer of health, Toronto; Dr. Isabel Ormiston, medical officer to the Education Department of Tasmania; and Dr. Truby King, New Zealand, on the Hygiene of Childhood. In connexion with the conference an exhibition dealing with the Care of Child Life, and also showing the influence that town planning may have upon the health of the future citizen, is being organised. In this there will be a collection of models, charts, diagrams, and statistics.

Mr. T. Nicolson, of the Co-partnerhip Tenants Housing Council, 6, Bloomsbury-square, London, W.C., is organising the exhibition.

A CENTENARIAN.—Mrs. Charlotte Webb, of Bilson, Cinderford, died on Feb. 22nd. She celebrated the 103rd anniversary of her birthday on Feb. 17th.

THE annual dinner of the British Oto-Laryngological Society will take place on the evening of Wednesday next, March 18th, at the Trocadéro Restaurant, Piccadilly-circus, W., at 7.30 o'clock. Mr. Charles J. Heath will be in the chair.

ST. GEORGE'S HOSPITAL: THE HUNTERIAN SOCIETY.—The annual dinner of the St. George's Hospital Hunterian Society will be held to-day, Friday, March 13th, at the Waldorf Hotel at 7 for 7.30 P.M. The chair will be taken by Mr. W. Fedde Fedden, F.R.C.S., and Mr. A. William West will be the guest of the St. George's Hospital Club on the occasion of his retirement from the post of treasurer to the hospital. The dinner will be followed by a smoking concert, presided over by Dr. Charles Slater, president of the club. It is hoped that many of St. George's men who have not already intimated their intention of being present will at once communicate with the honorary secretaries of the Hunterian Society, St. George's Hospital.

QUEEN VICTORIA JUBILEE CONVALESCENT HOME, DURDHAM DOWNS.—The annual meeting of the friends of Bristol's Convalescent Home was held on Feb. 26th, under the presidency of the Lord Mayor. The medical report stated that during 1913 the patients admitted numbered 1983; 922 of these were female and 1061 male. From the Royal Infirmary came 660 patients, from the General Hospital 655, the Eye Hospital 24, the Dispensary 59, and the Clifton Dispensary 16. Free patients were 398 and paying patients 171. The daily average number of cases was 78¾, the average stay being 14¾ days. The financial statement showed the income was £2943 and the expenditure £2925.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Administration of the Insurance Act.

THE topic of the debate which arose on the Vote on Account on Thursday, March 5th, was the administration of the National Insurance Act. For the most part the discussion related to the controversial subject of the solvency or insolvency of Approved Societies. There were, however, references to medical matters in the debate, and to these the following report is entirely confined.

Mr. WORTHINGTON EVANS, in moving as an amendment the reduction of the Vote by £100, criticised the action of the [illegible]

[illegible] believed that that was something like 25 per cent. of the whole. Of course, if 25 per cent. of all insured people in the country had not selected a doctor it would be a very large figure, but the conditions of London were peculiar, and consequently the percentage in London was likely to be very much higher than the percentage throughout the country. He did not believe, however, that it was any exaggeration to say, taking the figures throughout the country, that there was something between 5 and 10 per cent. at least of insured people who had not selected a doctor. That meant that there were something like 1,000,000 people who had not selected a doctor, although they were charged by a deduction from their wages for the payment of a doctor. [illegible] they were getting no [illegible]

sum. Counsel's opinion [illegible]

[illegible] in the Regulations to [illegible]
mittee retained it in [illegible]
was interviewed by a [illegible]
who asked if those [illegible]
Insurance Committees would be paid over to the panel doctors. He was reported to have said, "Yes, even if counsel's opinion should once more prove unfavourable, the doctors are to get the money." The deputation, it was said, had gone away pleased. He submitted that it was of public utility to know which of the insured were being charged without getting benefit. It was of public utility to know how £300,000 or £400,000 which was contributed by these insured people was to be used. The doctors might be entitled to it. He did not know whether they were or not. If they were [illegible]

[illegible] of large numbers of insured persons stood in the way of compiling a return showing ho[illegible]
a medical man on the panel. [illegible]
in saying that in the county [illegible]
[illegible]0 insured persons [illegible]
The whole of the [illegible]
were collectively [illegible]
[illegible]sured population of Middlesex, and his committee had deliberately avoided assigning healthy insured persons to a doctor, because they had the assurance, which he was bound to say had been [illegible] were responsible and [illegible]
the insured population [illegible]
[illegible]der a score of cases where persons had been ill and had neglected—it was their own fault—to select a doctor. That had led to an hour or two of difficulty, but a doctor had been communicated with and these people had been assigned with the doctor's consent to a doctor in the vicinity. If it was a fact that every insured person in the county who had been ill had had a doctor, what nonsense it was to say that because certain people were not on a doctor's list they had not had the medical benefit for which they paid. It might as well be said that people on a doctor's list who had been fortunate [illegible] had medical benefit. [illegible]
[illegible]ed in Middlesex was [illegible]
[illegible]ry, and indeed under [illegible]
normal course with [illegible]

never was any balance [illegible]
there [illegible]
had made a contract wi[illegible]
capita- [illegible]
of the [illegible]
s breach of [illegible]
the money [illegible]

Mr. GODFREY LOCKER-LAMPSON dealt at length with the payments to panel chemists for the most part in the Manchester district. So far as he could see there would be an average loss of about £100 a head to the Man- [illegible]

was also a very serious shortage in the funds under the Insurance Act available to [illegible]
tuberculous insured persons [illegible]
In the last minutes of the Gla[illegible]
was stated that 27 persons were awaiting admission to [illegible]
[illegible] persons receiving domiciliary [illegible]
[illegible] a scandal [illegible]

[illegible] course of his speech, said that [illegible]
was 2*s*. per person. In the old [illegible]
[illegible]r member covered drugs and [illegible]
a system by which the doctors got 7*s*. and 2*s*. were given for drugs. That fact had to be kept in mind. The Government had never undertaken to give a [illegible]

that margin. In certa[illegible]
prescribing very freely. [illegible]
the first few months. [illegible]

comment on how that occurred. It had been especially the case where the doctors had chosen the method of payment by attendance. That also was rather significant. Matters were being scrutinised by the Pharmaceutical Society. He did not know that they were bound to pay bills of this kind in excess of the very liberal and generous allowance made. They desired to know the reason why these extravagant bills had been sent in—extravagant he meant on the face of them—for he did not want to make a general charge. They had got to examine these accounts very carefully. They had to see whether the doctors prescribed fairly and reasonably or whether they prescribed in order, in some cases, to get rid of their patients—whether they prescribed drugs and sent to the chemists unnecessarily. It would be folly on the part of the Government not to examine these things. Meanwhile, all the chemists concerned had again gone on the panel, which showed that they, at any rate, were perfectly satisfied to go on on the old terms whilst these cases were being examined. He now came to the question of sanatoriums. Nobody ever thought that in the course of 18 months after the Act came into operation a perfect system of sanatoriums and dispensaries would be ready. As to sanatoriums it was very difficult to move the municipalities. The Government only promised money to localities which were prepared to meet them. The Government had provided £1,600,000. If that had not been all spent it was very largely because time had been needed to bring proposals before the corporations and because there were some slack municipalities as well as some active ones. Just look at what had happened in the meantime. Let them consider the number of people who had been dealt with. There were between 30,000 and 40,000 people who were receiving consumptive treatment of one kind or another. What did that mean? Some of it was domiciliary treatment, which meant that the patients had doctors, and many of those people did not have doctors before at all. They had received very excellent food as well as medicine of a strengthening character to fortify their system to fight the tuberculosis. What about institutional treatment? He agreed that in two, three, or four years there would be more room and more beds, whilst the institutions would improve, but everything could not be done in 18 months. As it was, there were 24,000 persons treated in institutions. Some of these were not good, because they had to be improvised for the time being. But even the least good were infinitely better than the homes in which many of these people had to be treated, or rather to be neglected, in the past. Dealing with the subject of excessive sickness the right honourable gentleman said that it was acknowledged that there was more malingering amongst women's than amongst men's societies. On the other hand, excessive sickness had to be taken into account. If any system of insurance was going to be a success the affairs must be managed in a business-like way. There was a margin no doubt for improvement in the doctoring—a considerable margin, and that was a question which would have to be considered. There were some doctors who were too slack and gave certificates much too readily. Later in his speech the right honourable gentleman said that millions of people were brought into insurance who could never afford a doctor before. Here for the first time these people were on the doctor's list. They could go to the doctor at any time, ask his advice, have drugs prescribed, and it was quite a novel experience for these poor people and for the doctor to deal with them. It was too much to ask the doctors that they should be tested by the first year's experience of conditions to which they had never been accustomed.

Mr. H. FORSTER remarked that honourable Members had some reason to be surprised that only a sum of £88,000 out of £1,500,000 should have been provided for the erection of sanatoriums. More expedition might have been shown by the Government. Domiciliary treatment had fallen lamentably short of what ought to have been provided.

The amendment was afterwards negatived by 242 votes to 174, and the vote was agreed to.

Vaccination Acts.

A Bill to repeal the Vaccination Acts has been presented by Mr. BLACK in the House of Commons. It has been read a first time.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 4TH.

Lunatics as Private Patients.

Sir JOHN JARDINE asked the Home Secretary to state what precautions existed to protect the liberty of the subject where a lunatic who had not been personally seen by the judicial authority had been received as a private patient by the manager of an institution for lunatics or by a person taking charge of him as a single patient; what means the Lunacy Commissioners had at their disposal for enforcing the requirement of the Lunacy Act, 1890, Section 8, Subsection (2), that such manager or person should within 24 hours after reception give the patient a notice in writing of his right to be taken before or visited by a judicial authority; whether such manager or person was bound forthwith t inform the Lunacy Commissioners or the judicial authorit that he had discharged this duty of giving notice to th patient or to make any other record of his having given th notice and of the answer of the patient; and in [illegible] to comply with the law requiring [illegible] whether the Lunacy Commissioners exercised any powers o discipline or on discovery originated any prosecutions for th misdemeanour.—Mr. MCKENNA replied: When a patient ha not been seen by the judicial authority who made th reception order, in addition to the precautions applicabl to all private patients, he has the right to be seen by another judicial authority, and to receive notice of such right within 24 hours of admission, unless the medical officer or th medical attendant signs and sends to the Commissioners a certificate that the right would be prejudicial to the patient. The only means the Commissioners have of enforcing the duty of giving this notice is a prosecution for misdemeanour in case of default. There is no obligation to inform either the Commissioners or the judicial authority that the notice has been given to the patient, but if the patient desires to be seen by a judicial authority a notice to this effect must be sent to the judicial authority of such desire. The Commissioners on becoming aware that the required notice had not been sent would call the attention of the person in default to the requirements of Section 8 and warn him of the risk he incurred of a prosecution. A prosecution would not be instituted for mere inadvertence, but only for wilful disobedience to the law.

Visitation of Broadmoor Criminal Lunatic Prison.

Mr. TOUCHE asked the Home Secretary what was the object of the visit of the Lunacy Commissioners to the Broadmoor Criminal Lunatic Prison; and whether they went to grant interviews and consider representations made by prisoners in favour of release.—Mr. MCKENNA answered: The Commissioners in Lunacy visit Broadmoor in pursuance of Section 14 of the Criminal Lunatic Asylums Act, 1860, to inquire into the mental and bodily condition of patients confined there, and make such other inquiries as they may think proper. They give the patients full opportunities of laying before them any matter to which they wish to draw attention and receive and inquire into any complaints made by the inmates.

The Letters of Inmates at Broadmoor.

Mr. TOUCHE asked the Home Secretary whether any record was kept of the letters written to the prison authorities by prisoners in the Broadmoor criminal lunatic prison; and if these letters were read by the governor.—Mr. MCKENNA answered: Broadmoor is not a prison and is not under the prison authorities. A record is kept of every letter received or dispatched by a patient. All those dispatched are read by some member of the medical staff, but not necessarily by the superintendent. There were nearly 24,000 last year.

Death of an Insured Person.

Mr. CASSEL asked the Secretary to the Treasury whether his attention had been called to the opinion expressed by a coroner's jury at the inquest on George John Chandler, deceased, an insured person suffering from tuberculosis, that there had been neglect on the part of the insurance officials, and that more care should be taken on all future occasions; and whether the Government proposed to take any steps in the matter.—Mr. WEDGWOOD BENN answered: My right honourable friend's attention had already been called to the inquest referred to, and he has caused the fullest possible inquiries to be made. The deceased applied for sanatorium benefit on Jan. 12th, 1914. He was examined on Jan. 13th, and on the same day he and the doctor in attendance were officially informed that domiciliary treatment had been granted, the latter being invited to forward any requisition for an allowance of special nourishment which in his opinion would be beneficial to the patient. The domiciliary form of treatment was recommended on the advice of the Insurance Committee's medical adviser, who reported that the patient's condition would not admit of his being removed to a sanatorium. Had the case been suitable for treatment in a sanatorium the patient would have been removed to one within three days, as the Committee had at the time seven beds available. No trace whatever can be found in the Insurance Committee's offices of any application for an allowance of special nourishment, and the facts elicited by my right honourable friend's inquiries suggest that it is more than doubtful whether any such application was in fact made. The relatives of the deceased state that he received all the nourishment that was necessary, and that every possible attention was shown by the doctor in charge of the case, who had prescribed all suitable tonics and medicines, and had in the interval between the recommendation on Jan. 13th, and the death of the deceased on Feb. 25th, paid over 25 visits to him.

Elementary Education (Defective and Epileptic Children) Bill.

Mr. J. A. PEASE, in moving the second reading of the Elementary Education (Defective and Epileptic Children) [illegible] men. It mig [illegible] stage. The [illegible] Bill compuls [illegible] did propose w [illegible] Act compulsory in regard to suitable special schools for the defectives. There were now about 12,000 children in [illegible] unprovided for who might become wastrels and useless citizens, whereas the greater number in the event of their being sent to special schools would undoubtedly become useful citizens. At least, the [illegible] and to a very large extent [illegible] really a corollary to the Me [illegible] passed last session, and would come into operation on April 1st. It was with a view to enable the work of the Mental Deficiency Act to be properly carried out that the Bill was essential. The cost to the Treasury of the special schools was about £45,000, and ultimately it would be [illegible] riticised by Sir F. [illegible] hers, but the second [illegible]

THURSDAY, MARCH 5TH.

Exemptions from Vaccination in Scotland.

Captain GILMOUR asked the Secretary for Scotland to state the number of exemptions from vaccination in each of the three years before a statutory [illegible] appearance before a magistr [illegible] number of exemptions in [illegible] MCKINNON WOOD wrote in re [illegible] declarations of conscientious [illegible] provision existed, as in England, for the granting by magistrates of exemptions from vaccination. The numbers of such statutory declarations made in respect of births registered in subsequent years were as follows:—

In respect of births registered in—	Statutory declarations.
1907	7,258
1908	15,846
1909	22,746
1910	26,954
1911*	29,582
1912*	32,863

* These figures have not yet been published and are subject to revision.

Housing Conditions in Dublin.

Sir ARTHUR GRIFFITH-BOSCAWEN asked the Chief Secretary to the Lord Lieutenant of Ireland whether the attention of [illegible] led to the recently issued [illegible] mittee on the Housing [illegible] in Dublin, which report [illegible] is state of affairs in that [illegible] een called to the fact that no less than 229 persons per 10,000 lived in one-room tenements in Dublin, whereas the corresponding figures for Liverpool were 23 and for Belfast 3 per 10,000; that several [illegible] houses described as [illegible] t the committee [illegible] erations in Irish [illegible] proposed to take [illegible] committee.—Mr. [illegible] two paragraphs [illegible] cept the figure [illegible] members of the Dublin corporation who own houses which are described by the chief superintendent of the sanitary staff of the corporation as being unfit for human habitation. The question of municipal housing is receiving the consideration of the Government.

Sir ARTHUR GRIFFITH-BOSCAWEN: When will the right honourable gentleman be able to make a statement as to what steps the Government propose to take? Also can he [illegible] in Dublin are so much [illegible] Dublin and other municipal bodies?

[illegible] large question.. Some such [illegible] is worth anything, be given [illegible] before they can be expected [illegible] arden of this very necessary [illegible] Member for Dudley (Sir [illegible] no one in appreciation [illegible], obviously I am not in a position to say when the Government will be able to make really definite and business-like proposals in this matter. They cannot be delayed indefinitely.

Sanatorium Benefit in Dublin.

Mr. GODFREY [illegible] asked the honourable Member for St. [illegible] ct that it was unable to [illegible] the supplying of sanatoria [illegible] there was at present a [illegible] what the Government [illegible] lution referred to, but he is informed that it is not the case that persons awaiting admission to residential institutions are without treatment in the interim.

Payment of Canterbury Panel Chemists.

[illegible] asked the honourable [illegible] negative.

MONDAY, MARCH 9TH.

Medical Cards for Insured Persons in Blackburn.

Mr. ASTOR asked the Secretary to the Treasury whether the collectors of the panel doctors were employed by the Blackburn Insurance Committee to deliver medical tickets to insured persons; how many collectors were so employed; what remuneration was paid to them for this service; how many doctors' collectors had refused to undertake this work; and what arrangements were made to deliver the cards in these cases.—Mr. WEDGWOOD BENN replied: My right honourable friend is informed that in a large number of cases the collectors of the panel doctors were employed by the Blackburn Insurance Committee to deliver medical cards to insured persons, but he is unable to state how many were so employed or how many declined to undertake the work. The remuneration offered was 2*s.* 6*d.* per 100 cards. In those cases in which it was not possible to secure the delivery of the cards by the doctors' collectors the cards were sent by post or delivered by other persons engaged for the purpose.

Insured Persons Refused by Panel Practitioners.

Mr. RUPERT GWYNNE asked the Secretary to the Treasury what arrangements had been made by which an insured person who had been refused medical attendance by three panel doctors could obtain medical benefit without further delay.—Mr. WEDGWOOD BENN replied: Insurance Com- [illegible] power under their agreements with [illegible] n applying to [illegible] lty in getting [illegible] accepted and this power has always been exercised when [illegible]

Free Examination of Sputum.

Mr. ASTOR asked the President of the Local Government [illegible] for the free [illegible]

TUESDAY, MARCH 10TH.

Edinburgh Milk-supply.

Mr. MCKINNON WOOD informed Mr. JAMES HOGGE that it was stated to him that the medical officer of health for Edinburgh stated that investigations carried on for several years showed that only in exceptional cases was the presence of tubercle detected in samples of milk taken in the city. [illegible] cient measures of inspec- [illegible] peration, and that as [illegible] would compare favour- [illegible] cupied a good position [illegible] om all forms of tuberculosis were compared with the statistics for other large towns in Scotland.

Epsom, London County Asylum, Horton, Surrey.—Junior Assistant (Sixth) Medical Officer. Salary £200 per annum, with board, apartments, and washing.

Evelina Hospital for Sick Children, Southwark, S.E.—Clinical Assistants in Out-patient Departments.

Exeter, Royal Devon and Exeter Hospital.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

Glasgow, Royal Samaritan Hospital for Women.—Resident Medical Officer. Salary £25 per annum. Also vacancy on Outdoor Dispensary Staff.

Gloucestershire Royal Infirmary and Eye Institution.—Assistant Surgeon.

Great Northern Central Hospital, Holloway-road, N.—House Physician and House Surgeon for six months. Salaries at rate of £40 per annum, with board, lodging, and laundry.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

Halifax Royal Infirmary.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £30 per annum respectively, with residence, board, and washing.

Hemel Hempstead, West Herts Hospital.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

Hull Royal Infirmary.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

Ilford Urban District Council.—School Dentist. Salary at rate of £200 per annum.

Ipswich, East Suffolk Hospital.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

Leicester Royal Infirmary.—Assistant House Surgeon and Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

Leicester Sanatorium and Isolation Hospital.—Resident Medical Officer. Salary £250 per annum, with board and residence.

Liverpool Workhouse Hospital, Brownlow Hill.—Resident Assistant Medical Officer. Salary £140 per annum, with apartments, &c.

London Lock Hospital.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

Manchester, County Asylum, Prestwich.—Assistant Medical Officer. Salary £250 per annum, with board, apartments, attendance, and washing.

Manchester Northern Hospital for Women and Children, Park-place, Cheetham Hill-road.—Junior House Surgeon. Salary £100 per annum, with apartments and board.

Manchester Royal Infirmary.—Medical Officer for Out-patients for six months. Salary at rate of £100 per annum, with board and residence.

Manchester Royal Infirmary, Convalescent Hospital, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

Merstham, Netherne Asylum.—Dentists for one day a week. Salary £50 per annum.

Middlesex Hospital, W.—Assistant Ophthalmic Surgeon.

Montreal, Royal Victoria Hospital.—Pathologist.

Muktesar, India, Imperial Bacteriological Laboratory.—Pathologist. Salary £550 per annum.

National Dental Hospital and College, Great Portland-street, W.—Deputy Anæsthetists.

Newark-upon-Trent Hospital.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

Newport (Mon.), Royal Gwent Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

Norwich City Asylum, Hellesdon, near Norwich.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, attendance, and laundry.

Notts Education Committee.—Assistant School Medical Officer. Salary £300 per annum.

Portsmouth, Royal Portsmouth Hospital.—Third House Surgeon for six months. Salary £90 per annum, with board, &c.

Preston, County Asylum, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Pathologist and Registrar. Salary £200 per annum, with lunch. Also House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

Rochdale Infirmary.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

Royal Australian Navy.—Two Surgeons. Rates of pay on entry £387 16*s.* 3*d.* per annum.

Royal Free Hospital, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

Royal Institute of Public Health, 37, Russell-square, W.C.—Junior Demonstrator of Bacteriology and Pathology. Salary £150 per annum.

Royal Naval Medical Service.—Twenty-five Appointments.

St. Albans, Middlesex County Asylum, Napsbury.—Junior Assistant Medical Officer. Salary £250 per annum, with board, lodging, washing, and attendance.

St. Giles Infirmary, Brunswick-square, Camberwell, and Gordon-road Workhouse, Peckham.—Second Assistant Medical Officer. Salary £170 per annum, with apartments, board, and washing. Also Third Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

St. Helena.—Assistant to Colonial Surgeon. Salary £250 per annum, partly furnished quarters, horse, and forage. Falkland Islands: Assistant Colonial Surgeon. Salary £300 per annum, with unfurnished quarters.

St. Mark's Hospital for Cancer, Fistula, and other Diseases of the Rectum, City-road, E.C.—Three Clinical Assistants.

St. Mary's Hospital for Women and Children, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

St. Paul's Hospital for Skin and Genito-Urinary Diseases, Red Lion-square, Holborn, W.C.—Clinical Assistant in Out-patient Department.

Salford Royal Hospital.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

Scarborough Hospital and Dispensary.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

Seaman's Hospital Society.—Dreadnought Hospital, Greenwich: Medical Registrar. Salary £100 per annum, with luncheon Also Two House Physicians and Two House Surgeons for six months. Salary £50 per annum each, with board, residence, and washing. Albert Dock Hospital, Connaught-road, E.: House Surgeon and House Surgeon to Out-patients for six months. Salary £75 per annum each, with board, residence, and washing.

Sheffield, East End Branch of the Children's Hospital.—Female House Surgeon for Out-patient Department *only*. Salary £75 per annum, with board and residence.

Sheffield Royal Infirmary.—House Surgeon, unmarried. Salary £80 per annum, [illegible]

Sheffield Union [illegible] Assistant Medical Officer, unmarri[illegible] with apartments, rations, &c.

Southampton, Royal South Hants and Southampton Hospital.—House Surgeon for six months. Salary at rate of £100 per annum, with rooms, board, and washing.

Sunderland Royal Infirmary.—House Physician. Salary £120 per annum, with board, residence, and laundry.

Ventnor, Royal National Hospital for Consumption and Diseases of the Chest on the Separate Principle.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

Wakefield, Cardigan Sanatorium.—Assistant Medical Officer. Salary £250 per annum, with partial board.

Wakefield General Hospital.—Second House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Westminster General Dispensary, 9, Gerrard street, Soho, W.—Resident Medical Officer. Salary £120 per annum, with rooms, attendance, &c.

West Ham and Eastern General Hospital, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

West Ham Union Sick Home, Forest-lane, Forest Gate.—Second Assistant Resident Medical Officer. Salary £160 per annum.

West Riding County Council.—School Medical Inspector. Salary £325 per annum.

Western General Dispensary, Marylebone-road, N.W.—Honorary Dentist.

Whitechapel Union Infirmary, Vallance-road, E.—Second Assistant Resident Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

Wigan, Royal Albert Edward Infirmary and Dispensary.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

Woolwich Infirmary, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £90 per annum, with apartments, board, and laundry.

Wolverhampton and Staffordshire General Hospital.—House Surgeon. Salary £125 per annum, with board, rooms, and laundry.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Hay, in the county of Brecknock; at Old Meldrum, in the county of Aberdeen; at Sutton Bridge, in the county of Lincoln; and at Tredegar, in the county of Monmouth.

The Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for Reading, Newbury, Farnham and Aldershot, and Chertsey County Courts. Applications for the post should be addressed to the Private Secretary, Home Office, Whitehall, S.W.

Births, Marriages, and Deaths.

BIRTHS.

Fairlie.—On March 10th, at Mecklenburgh-square, W.C., the wife of Wm. M. Fairlie, M.B., of a daughter.

Watson.—On March 2nd, at Leigh House, Leigh-on-Sea, the wife of W. Douglas Watson, M.R.C.S., L.R.C.P., D.P.H., of a son.

MARRIAGES.

Craig—Cressall.—On Feb. 14th, at St. Sidwell's, Georgetown, Demerara, George Ernest Craig, M.B. Dub., British Guiana Medical Service, to Ethel Harriet Beatrice, eldest daughter of Mr. and Mrs. Paul Cressall, Georgetown, Demerara.

DEATHS.

Cox.—On Feb. 15th, passed away at sea on s.s. "*Themistocles*," James Herbert Cox, M.R.C.S. Eng., L.R.C.P. Lond., of Cape Town, aged 51.

Vacher.—On Feb. 25th, at sea, after a short illness, Francis Vacher, J.P., F.R.C.S., M.R.C.P., of Glenart, Oxton, Birkenhead.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE MILWARD FUND

THIS fund whose origin was described in THE LANCET of March 7th p 726 is now closed and a final statement of the fund and a complete list of subscribers has reached us with a request for publication

The committee of the fund met for the last time on Jan 29th, when Dr C Octavius Parsons and Mr William Sheen were appointed trustees of the fund, with instructions as regards the £1328 5s 11d to invest £1300 in trust

e should go to Mrs Milward

5s 11d on her behalf Also

The investments have been made as follows —

		£	s	d
£250 India 3% Stock	@ 79¼	198	2	6
£250 Barry Railway 3% Debentures	@ 76	190	0	0
£250 Midland Railway 2½% Preference Stock	@ 66½	166	11	3
£300 Great Northern Railway 4% Preference Stock	@ 105¼	315	15	0
£250 Metropolitan Water Board 3% A Stock	@ 85½	212	16	3
£250 Natal 3% Stock	@ 82¼	205	12	6
		1288	17	6
Cost of stamps and fees		5	11	0
Total		1294	8	6

These investments are estimated to produce £47 10s

Caerphilly Dr D R Price of Ammanford and Mrs Le Cronier Lancaster, of Swansea Also to the honorary secretaries of the various divisions of the British Medical Association where collective subscriptions were made to the medical press for giving publicity to the fund and to Mr C Massey stockbroker, of Cardiff who kindly undertook the investments free of commission Mrs Milward

husband

pay her

pital will be available when he has arrived at the proper age

	£	s	d	
A L J Mumbles	1	0	0	
Ackland J M Exeter	0	10	6	
Addison H C Broxbourne	1	1	0	
*Alvanez Rev Thos E Northern Nigeria	1	1	0	
Anstey Chave T Cardiff	5	5	0	& £2 2s per an for 5 yrs
Anonymous	0	10	6	
Anonymous London	1	0	0	
Anderson A W Ogmore Vale	2	2	0	
Andrew H Exeter	0	10	6	
Arthur John Llandaff	2	2	0	& £1 1s per an for 5 yrs
Askin T. C Woodbridge	1	1	0	
Atkinson T H Chadwell Heath	0	5	0	
Atkins S F Exeter	0	10	6	
Ayre F J Llantwit Major	1	1	0	
Barry W J M Penarth	5	5	0	
Bangay R New Tredegar	1	1	0	
Barton H T Blackpool	2	2	0	
Barnard B Maclen	2	2	0	
Bevan H C Blaina	1	1	0	
Berryman H A Major R A M C	1	0	0	
Bedlow J Exeter	0	10	6	
Bennett H Builth Wells	1	1	0	
Biddle C Merthyr	2	2	0	
Binns J B London	0	10	6	
Blight W Lyne Cardiff	5	5	0	
Blandford L J Stockton on Tees	1	1	0	
Blake A F Grays Essex	0	5	0	
Brownlee Alex Cardiff	1	1	0	
Boyd J Cardiff	2	2	0	
Bowen F R Bargoed	1	17	0	
Boyd S M Harrogate	0	10	6	
Bowen Owen Liverpool	1	1	0	
Body T M Middlesbro	0	10	6	
Bolton Div B M A	4	15	0	
Brierley E E Cardiff	1	0	0	& £1 per an for 5 yrs
Broad B W Cardiff	5	5	0	& £5 5s per an for 5 yrs
Brewer R E W Brewer F H W Newport Mon	3	3	0	
Brown John Bacup	0	10	6	
Brickdale J M Fortescue Bristol	1	1	0	
Brigstocke C A Haverfordwest	1	1	0	
Brazil W H Coventry	1	1	0	
Bruce H W London	1	1	0	
Brit Med Assoc Insurance Defence Fund	200	0	0	
Brownlee James Middlesbro	0	10	0	
Bryars A Middlesbro	0	5	0	
Brook W F Swansea	3	3	0	
Brighton B M A Representative Meeting	25	4	0	
*Britten F C, London	0	10	6	
*Barke Miss Ethel R Cardiff	3	3	0	& £1 1s per an for 4 yrs
Burke J P T Abertridwr	2	2	0	
Butler T Harrison Leamington	5	5	0	& £5 5s per
hampton	0	10	6	
Bucks Div B M A	4	7	6	
*Butt Mrs A S Abergavenny	0	10	0	
Cantillon D E Cardiff	2	2	0	
Campbell H Cardiff	3	3	0	
Cameron R Cardiff	5	5	0	
Carruthers J F Jersey	0	10	6	
Cardale H J London	0	10	6	
Candler A L Exeter	0	10	6	
Cambridge Division B M A	1	15	0	
Cecil H A, Ystrad Mynach	2	2	0	
Clayton F Leamington	1	1	0	
Clapp G T Exeter	0	10	6	
*Clarke L S G Balaghat India	1	0	0	
Child H Exeter	0	10	6	
Charitable Fund per E Hooper May London	5	0	0	
Corrigan W J Cardiff	5	5	0	
Cownie J F Cardiff	5	5	0	
Collins E T Cardiff	3	3	0	& £1 1s per an for 4 yrs
Cochrane C E Porth	1	1	0	
Coulter R J Newport Mon	5	5	0	
Cook H G Cardiff	5	5	0	
Cox Alfred E London	1	0	0	& £1 per an for 4 yrs
Cowie R A Ebbw Vale	1	1	0	
Collis Edgar L London	2	0	0	
*Cory Mrs John Penarth	25	0	0	
Corbett E Exeter		10	6	
Coombe Russell Exeter	1	1	0	
Cory E J Trevor Aberdare	3	3	0	
Coventry Division B M A.	6	15	0	
Cresswell F P S Cardiff	5	5	0	
Coumbe J Batten Gillingham	1	1	0	
Cropper J Chepstow	5	0	0	
Crerar J W Maryport	1	1	0	
*Crapper Mr and Mrs H S Poole	2	2	0	
Cumberlege G I Cardiff	2	2	0	& £1 1s per an for 5 yrs
Curme Decimus Blandford	1	0	0	
Cutcliffe M Dawlish	0	10	6	
Davies J L P Llanelly	2	2	0	
Davies F W S Cardiff	2	2	0	& £1 1s per an for 3 yrs
Davies Howard Pontypridd	2	2	0	
Davies G L Histon	0	10	6	
Davies R T E New Tredegar	2	2	0	
Davies Ivor Cardiff	2	2	0	
Davies D Leighton Cardiff	3	3	0	& £1 1s per an for 5 yrs
Davies Eleazar Fochriw	2	2	0	
Davies D Arthur Sketty Glam	1	1	0	
Davies Evan N Pontyclun	2	2	0	
Davies J Hopkin Port Talbot	1	1	0	
David W W Pontypridd	3	3	0	
Davy H, Exeter	0	10	6	
Devereux A C Cardiff	2	2	0	& £1 1s per an for 4 yrs
Dess P M Budleigh Salterton	0	10	6	
Derbyshire Division B M A	12	16	0	
Dickin E P Brightlingsea	1	1	0	
Dickie W S Middlesbro	0	10	6	
*Dillwyn Miss Swansea	1	0	0	
Dawkin G M Pontypridd	2	2	0	
Downing Charles Cardiff	3	3	0	
Dover J F Whitchurch Glam	2	2	0	
Domville E J Exeter	1	1	0	
Donaldson James Middlesbro	0	10	6	
*Dovey C E Cardiff	5	5	0	
Dunbar H J Cardiff	3	3	0	
Dunn L A London	5	5	0	
Duncan T Exeter	0	10	6	
Drapes T L Chepstow	2	2	0	
*Drewry F Buxton	1	1	0	
Dyball B Exeter	0	10	6	
Eager Richard Exminster	0	10	6	
East W Norwood London	1	1	0	
Edwards W T Cardiff	5	5	0	
Edwards D T Taffs Well	2	2	0	
Edwards W B and C Armstrong Seven Sisters Glam	5	5	0	
Edwards J W Middlesbro	0	10	6	
Elder Elizabeth Cardiff	2	2	0	
Elworthy H S Ebbw Vale	2	2	0	
Elsworth R C Swansea	2	2	0	
*Elliott Drake Rev H M Briscoe	1	1	0	
*Egles Miss D Outshoorn Cape Colony	1	10	0	
*Edwards E Cardiff	2	2	0	
Emrys Roberts E Cardiff	2	2	0	
England P J Cardiff	2	2	0	
*England Councillor F Cardiff	1	1	0	
Essex S E Division B M A	5	5	0	
Evans Eric Cardiff	1	0	0	& £1 per an for 5 yrs
Evans W T Treharris	1	1	0	
Evans Evan Llanelly	1	1	0	
Evans H T Blackwood	1	1	0	
Evans W H Colyton Devon	0	10	6	
Fagge R Hilton Melton Mowbray	2	2	0	
Falconer J E, Middlesbro	0	5	0	
Fenwick C Exeter	0	10	6	
Finny Thomas Aberaman	1	1	0	
*Finch H Wynne Crowborough	30	0	0	
Fildian A F Cardiff	1	1	0	& £1 1s per an for 3 yrs
Fitzgerald D A Cardiff	2	2	0	
Fort C L British Columbia	10	0	0	
Fordyce B E Cambridge	2	2	0	
Forsdike H S Porthcawl	5	5	0	
Forsyth Charles Southend-on Sea	0	10	6	
*Fisher Colonel H Oakden Radyr	5	5	0	
Fripp Sir Alfred D London	10	10	0	
Fremantle F E Hertford	5	0	0	& £5 per an for 2 yrs
Frost T J Llanhilleth	0	10	6	
Frost J K Exeter	0	10	6	
*Friend An Old Oxford	50	0	0	
Fuller W A Milnthorpe	1	1	0	
Fulton A Nottingham	1	1	0	
Gallaher J F Cardiff	1	1	0	& £1 1s per an for 3 yrs
Gamgee Leonard P Birmingham	2	2	0	
Gates M B Exeter	0	10	6	
*Gilbertson F W Swansea	2	2	0	
Gillespie W J London	0	10	6	
Gitley G G Cullompton Devon	0	10	6	
Goodhart Sir James London	21	0	0	

	£	s.	d.	
Goodall, E., Cardiff	5	5	0	
*Goldberg, Hyam, Swansea	1	1	0	
Griffiths, P. Rhys., Cardiff	2	2	0	
Griffiths, Percy W., Bridgend	1	1	0	
Griffiths, W. L., Swansea	1	1	0	
Griffiths, C. A., Cardiff	5	5	0	
Grant, J. W. Geary, Cardiff	1	1	0	
Grant, R., Cromer	2	2	0	
Greer, W. J., Newport, Mon.	1	1	0	
*Gregory, Mrs., Caerphilly	0	10	0	
Gordon, W., Exeter	0	10	6	
Gough, Bernard B., Bristol	1	1	0	
Glastonbury "Medicos"	1	1	0	
Greenwood, Major, London	1	0	0	
Greene, C. W., Rochester	2	2	0	& £2 2s. per an. for 4 yrs.
Harris, W. B., Cardiff	2	2	0	
Harries, D., Carmarthen	0	10	6	
Hacquoil, P. H., Penarth	1	1	0	
Haycraft, J. B., Cardiff	1	1	0	
*Hazel, A. E. W., Oxford	2	2	0	
*Harries, D., Cardiff	3	3	0	
*Handcock, Colonel J. J., Cardiff	5	5	0	
*Harris, A. J., Llanishen	1	1	0	
Harding, R., New Radnor	1	1	0	
Hall, E. S., Bitterne, Hants	1	8	8	
Halifax Division, B.M.A.	4	0	0	
Harris, Robert, Southport	1	1	0	
*Hempson, W. E., London	5	5	0	
Hepburn, David, Cardiff	2	2	0	
*Herring, Mrs. A., Quebec	1	0	0	
Hedden, R., Honiton, Devon	0	10	6	
Hinks, A. G., Westcliff-on-Sea	0	10	0	
*Higson, Rev. G. L., Knutsford	2	2	0	
Hind, Wheelton, Stoke-on-Trent	10	0	0	
Hicks, Philip, Leamington	1	1	0	
Howell, John, Cheltenham	1	1	0	& £1 1s. per an. for 3 yrs.
Hoops, H. L., Cardiff	1	1	0	
Hodgson, V. J., Westcliff-on-Sea	0	10	0	
Howell, Alf., Cardiff	4	4	0	
Hopkins, Edward, Bedlinog	1	1	0	
Hopkins, R., Llangadock	1	1	0	
*Hughes, W. Hawker, Oxford	1	1	0	
Hunt, De Vere, Cardiff	2	2	0	
Ibotson, E. C. B., Briton Ferry	1	1	0	
Isaac, R. J., Pontardulais	1	1	0	
Inman, E., Ammanford	0	10	6	
[illegible]	1	1	0	
[illegible]	3	0	0	
[illegible] Cardiff	2	0	0	
James, P., Senghenydd	2	2	0	
Jackson, T. L., Cheadle	1	1	0	
Jackson, H. W., Middlesbro'	0	5	0	
James, W. T., Newquay, Cardigan	0	10	6	
Jephcott, Charles, Chester	1	1	0	
Joscelyne, E. W., Cardiff	2	2	0	
Jenkins, J. D., Pentre	1	1	0	
"J. F."	0	5	0	
*Jones, Mrs. R. W., Penrhiwceiber	2	2	0	
Jones, D. Rhys, Cardiff	2	2	0	
Jones, T. W., Barry Dock	1	1	0	
Jones, J., Bowen, Cardiff	2	2	0	
Jones, Evan, Llanybyther	0	10	6	
Jones, C. A., Penarth	1	1	0	
Jones, W. Llewelyn, Merthyr	2	2	0	
Jones, B. G. Phillips, Penrhiwceiber	2	2	0	
Jones, Evan, London	3	3	0	
John, Thos., Swansea	1	1	0	
Jones, Evan, Aberdare	1	1	0	
King, J. C., Barry	2	2	0	
*Lainé, J. M., Leamington	4	4	0	
*Lainé, Mrs. J. M., Leamington	1	1	0	
*Lancaster, Arthur H., Send, Surrey	5	5	0	
*Lancaster, Percy Locke, Ealing	1	1	0	
THE LANCET Medical Insurance Committee Discretionary Fund	25	0	0	
THE LANCET "Relief Fund"	25	0	0	
Lawrence, A. G., Chepstow	2	2	0	
Lancaster, E. Le Cronier, Swansea	3	3	0	
Lane, Sir W. Arbuthnot, Bart., London	2	2	0	
*Lewis, Rupert, Taffs Well	0	10	6	
*Lewis, W. Morgan, Cardiff	3	3	0	
Lewis, Cyril, Cardiff	2	2	0	
Leigh, W. W., Treharris	3	3	0	
Ley, H. Rooke, Boscombe	1	1	0	
Latimer, H. A., Tunbridge Wells	1	1	0	
Levick, M. H., Middlesbro'	0	5	0	
Leeming, Arnold, Sudbury	0	10	0	
Lindsay, W. J., London	2	2	0	
Llewellyn, T. R., Penygraig	2	2	0	
*Llewelyn, Sir J. T. D., Bart., Penllergaer	5	5	0	
Lloyd, M., Llanarthney	4	4	0	
Lloyd, P. A., Haverfordwest	1	1	0	
Lovely, C. N., Dawlish	0	10	6	
Lord, C. C., Gillingham	1	1	0	
Lyttle, J. Shaw, Creigiau	1	1	0	
"M."	2	2	0	
Maclean, E. J., Cardiff	10	10	0	
Martin, William, Cardiff	5	5	0	
Martin, H. C., Caerleon	1	1	0	
Martin, Allan, Cardiff	3	3	0	
Martin, D. Cargill, Cardiff	2	2	0	
Mathias, C. D., Tenby	1	1	0	
Marsh, F., Birmingham	1	1	0	
Martin, E. W. S., Brithdir	2	2	0	
MacManus, J. R. H., Bedwas	2	2	0	
Mackenzie, K. C., Caerphilly	2	2	0	
Maunsell, F. I., Tirphil	2	2	0	
Macevoy, H. J., London	1	1	0	
Maxwell, J. B., Southend-on-Sea	0	10	0	
Macpherson, W. H., Exeter	0	10	6	
McDowell, S. E. C., Nantymoel	1	1	0	
McLaughlin, James, London	0	10	6	
McCutcheon, J. P., Blaengarw	2	2	0	
Mills, Y. H., Haverfordwest	1	1	0	
Millea, W. C., London	0	10	6	
Morgan, Naunton, Gilfach	0	10	0	
Morgan, E. Rice, Morriston	1	1	0	
Morgan, W., Swansea	1	1	0	
Morgan, Thomas, Llandovery	0	10	6	
Moon, R. O., London	3	3	0	
Morgan, Idris N., Tonypandy	0	10	6	
Morgan, W. H., Westcliff-on-Sea	0	10	0	
*Morgan, Colonel W. L., Swansea	1	0	0	
Musgrove, C. D., Penarth	3	3	0	
Mules, Bertha, Exeter	0	10	6	
Neale, George, Barry	2	2	0	
Neish, W. A., Cardiff	5	5	0	
Nelis, W. F., Caerleon	2	2	0	
*Newsam, Mr. and Mrs. Fowler, Broxbourne	1	11	6	
Niall, W. G., Chatham	0	10	0	
Nicholls, Frank J., Eastbourne	1	1	0	
Norman, Ralph, Southend-on-Sea	0	10	6	
Nolan, J. S., Bedwas	2	2	0	
O'Donovan, M., Cardiff	2	2	0	
O'Donnell, P. J., Barry	2	2	0	
Parsons, C. O., Cardiff	5	5	0	& £5 5s. per an. for 5 yrs.
Paterson, D. R., Cardiff	10	10	0	
Paterson, H., Cardiff	3	3	0	
Parry, E. J., Pontycymmer	3	3	0	
Paxton, J., London	0	10	6	
Pearse, Athol, Cardiff	5	5	0	
Pegge, E. V., Briton Ferry	5	5	0	& £1 1s. per an. for 5 yrs.
Penfold, F. W., Rainham	1	1	0	
Pereira, J. A. W., Exeter	0	10	6	
*Petherick, Mrs., St. Austell	1	1	0	
*Peter, R. A., Looe	1	1	0	
Phillips, John, St. Clears	0	10	6	
Pickard, Ransom, Exeter	0	10	6	
Powell, Laura G., Cardiff	2	2	0	
Poole, T. B., Westcliff-on-Sea	2	2	0	
Portsmouth Division, B.M.A.	7	10	4	
*Price, F. H. Glynn, Swansea	1	1	0	
Price, Wm., Southerdown	5	5	0	
Price, R. G., Carmarthen	1	1	0	
Price, D. R., Ammanford	1	1	0	
Price, E. O., Bangor	1	1	0	
Price, E. H., Cardiff	1	1	0	
Prichard, R., Cardiff	3	3	0	
Prosser, E., Monmouth	1	1	0	
Pugh, C. G., Southend-on-Sea	0	10	0	
Quick, H. E., Swansea	1	1	0	
Ramsden, Walter, Oxford	5	5	0	& £1 1s. per an. for 5 yrs.
Randall, Wyndham, Bridgend	2	2	0	
Rees, Alf., Cardiff	2	2	0	
*Rees, Canon W. G. Edwards, Pendleton	1	1	0	
Rees, J. Hugh, Penarth	3	3	0	
Rhys, Owen L., Cardiff	3	3	0	
Rix, B. Tunbridge Wells	1	1	0	
Reidy, C., Bargoed	2	2	0	
Richmond, H. B., London	0	10	6	
*Richards, Mrs. Richard, West Cross	1	1	0	
Roberts, Henry H., Llanelly	2	2	0	
Roberts, D. R., New Tredegar	2	2	6	
Robinson, J., Cardiff	1	1	0	
*Riddelodell, H. J., Llandaff	0	10	6	
Rogers, W., Barry	1	0	0	
Rosewarne, D. D., London	0	10	6	
Rochester, Chatham, and Gillingham Div. B.M.A.	2	5	0	
Rogers, A. B., Cliffe	0	5	0	
Roper, A. C., Exeter	0	10	6	
Ryce, R., Merthyr	0	10	6	
Sansome, T., West Bromwich	1	1	0	
Sandoe, J. W., Exeter	0	10	6	
Scholberg, H. A., Cardiff	3	3	0	& £1 1s. per an. for 3 yrs.
Scudamore, L., Abertysswg	1	1	0	
Sheen, William, Cardiff	10	10	0	& £1 1s. per an. for 5 yrs.
Shepherd, C. C., Cardiff	1	1	0	& £1 1s. per an. for 3 yrs.
Shaw, Lauriston E., London	5	5	0	& £2 2s. per an. for 5 yrs.
Shepperd, Albert, London	0	10	6	
Shadwell, St. Clair B., London	1	1	0	
Shiach, S. A., Llanishen, Glam.	2	2	0	
Shand, W., Guisborough	0	5	0	
Shearer, D. F., Exeter	0	10	6	
Simpson, H. E., Southend-on-Sea	0	10	0	
Skyrme, H. E., Cardiff	3	3	0	
Smith, R. J., Cardiff	5	5	0	
Smith, R. W. Innes, Sheffield	0	10	6	
Smith, Percival, Sirhowy	1	1	0	
Smeall, W. F., Middlesbro'	0	5	0	
Soden, Wilfred N., London	1	1	0	
Southampton Division, B.M.A.	2	15	0	
Solly, R. V., Exeter	0	10	6	
*South Wales and Mon. Clerks Assoc., Cardiff	7	7	0	
Sparrow, G. R., Cardiff	5	5	0	
Spurgin, H. B., Northampton	1	1	0	
Spurr, J., Lyme Regis, Dorset	0	10	6	
Stevens, W. Mitchell, Cardiff	5	5	0	& £5 5s. per an. for 5 yrs.
Stewart, F. R., Penarth	2	2	0	
Stone, W. Domett, London	1	1	0	
Stretton, J. L., Kidderminster	1	1	0	
*Statfield, V. C., Durban, Natal	2	2	0	& £2 2s. per an. for 4 yrs.
Steinhaeuser, J. R., Lewes	1	1	0	
Starling, Hubert J., Norwich	2	2	0	
Steel, W., Middlesbro'	0	10	0	
Staffordshire Mid. Div., B.M.A.	4	14	6	
Staples, E. P., Strood	1	1	0	
Stokes, C. E., Exeter	0	10	6	
Swiney, F. S., Cardiff	2	2	0	& £1 per an. for 5 yrs.
Symonds, C. J., London	5	5	0	
Sympathisers, Two	0	7	0	
Terry, R. H., Nelson	1	1	0	
Telling, W. H. Maxwell, Leeds	2	2	0	
Thornley, A. L., Cardiff	2	2	0	
Thomas, D. E., Newport, Mon.	0	10	6	
Thomas, W. E., Ystrad, Rhondda	3	3	0	
Thomas, W. E., Bridgend	1	1	0	
Thomas, Frank G., Swansea	5	5	0	
Thomas, Jabez, Swansea	5	5	0	
Thomas, R. L., Whitland	0	10	6	
Thomas, J. Lynn, Cardiff	10	10	0	
Thomas, D. J., Bargoed	5	5	0	
Thomas, T. W., Caerphilly	2	2	0	
*Thomas, Sir W. J., Ynyshir	5	5	0	
*Thomas, Iltid, Swansea	1	1	0	
*Thomas, Alderman Morgan, Lord Mayor, Cardiff, 1913	1	1	0	
Thomas, R. Tudor, Cardiff	3	3	0	
Thomson, A., Oxford	3	0	0	
Thornely, M. H., Major I.M.S.	2	0	0	& £1 1s. per an. for 5 yrs.
Thornley, Joseph, Bolton	1	0	0	
Tighe, Vincent, Dublin	1	0	0	
Todd, D. F., Sunderland	1	1	0	
Tombleson, J. B., Southend-on-Sea	0	10	0	
Timothy, J. H., Nantgaredig	0	10	6	
Tomkys, L. S., Lichfield	0	10	6	
Tonge, E., Seaton, Devon	0	10	6	
Tweed, E. R., Honiton, Devon	0	10	6	
Treasure, W. B. C., Cardiff	5	5	0	
Tyson, Wilson, Lowestoft	1	1	0	
Tyson, W. J., Folkestone	0	10	6	
*Tuberville, Mrs. Picton, Swansea	1	1	0	
Turner, J. Hill, Cardiff	1	1	0	
*Vaughan, Colonel E. M. Bruce, Cardiff	2	2	0	
Vachell, C. T., Cardiff	6	6	0	& £1 1s. per an. for 5 yrs.
Vachell, H. R., Cardiff	5	5	0	
"H. C. V."	1	1	0	
Verrall, T. Jenner, Bath	2	2	0	
Wallace, Thos., Cardiff	5	5	0	
Wallace, John, Cardiff	3	3	0	
Wallace, Sam., Cardiff	2	2	0	
Walker, R., Cardiff	3	3	0	
Walker, J. F., Southend-on-Sea	2	2	0	
Ward, J., Merthyr	1	1	0	
Ward, Ernest, Merthyr	1	1	0	

	£	s.	d.
Wayne-Morgan, L., Whitchurch ..	5	5	0
Walker, J. C., Rochdale	0	10	6
Waller, W. A. E., Rugby	1	1	0
Webster, T. J., Merthyr	2	2	0
Welchert, C. J., Penygraig	2	2	0
Whelan, J. H., Cardiff	1	1	0
White, W. Hale, London	3	3	0
Whiting, A. J., London	1	1	0
White, C. F., London	0	10	6
Williams, J. D., Cardiff	2	2	0
Williams, Sam., Llanelly	2	2	0
Williams, D. Lewis, *Ferryside*	1	1	0
Williams, E. R., Carmarthen ..	0	10	6
Williams, Owen, Bury Port	1	1	0
*Williams, Mrs John, Cardiff	10	10	0
*Williams, Mrs Morgan Bransby, Killay	1	1	0
Willock, E. H., Croydon	1	1	0
Wood, W. H. O., Bridgend	2	2	0
Worthington, R. A., Exeter	0	10	6
*Wright, Colonel J. Roper, Swansea ..	1	1	0
Williams, D. J., Llanelly	10	10	0
Wills, W. Kenneth, Bristol	1	1	0
*"X"	0	10	0
Yeld, R. A., Okanagan *Lake, Brit. Columbia*	1	1	0
Young, G. R., London	0	10	6
Young, J. D., Blackpool	1	1	0
*Young, Mrs J. W., Islay, Mumbles	1	1	0

The statement is signed by Mr William Sheen, surgeon to King Edward VII. Hospital, Cardiff, and Dr. A. L Thornley, as honorary treasurer and honorary secretary to the fund respectively. The names distinguished by an asterisk are those of lay subscribers.

AN UNJUST REBUKE.

To the Editor of THE LANCET.

SIR,—Having recently recalled to a friend, also a layman, some experiences over 20 years ago in London, I related the story of an incident which happened to me in a restaurant in Holborn at that time, and my friend seemed very surprised; it occurs to me that others may be interested, and, indeed, I have often wondered if other short-sighted people have similarly suffered I happened to go [illegible] evening for a meal and sat at [illegible] of an hour eating dinner and [illegible] thinking out a little problem, [illegible] probably became, unknown to me, fixed in more or less of a stare. That evening I did not happen to wear my spectacles, and could not distinguish details of anything a few feet away. Just before I rose to go out of the restaurant a man crossed the floor and boxed my ears, much to my astonishment, and said: "Take that, you impudent young bounder, for glaring at me like that." I was too astounded [illegible] thinking the man had taken [illegible] I could jump up to expostu[illegible] te diner never knew the truth that I had never seen him at all. I [illegible] in [illegible]

London, March 9th, 1914. [illegible]

THE EMBERS OF CREDULITY.

THE man who sets out to gather up the vestiges of still lingering superstitious beliefs and quaint customs can have no better field for his operations than that of the more isolated farmsteads and out-of-the-way settlements of the countryside. This fact seems to have been fully recognised by Mr. E. A Rawlence, of Salisbury, who for five years past has, in prosecuting such work, taken advantage of the peculiar opportunities which his professional duties afford of throwing him into close touch with farmers and agriculturists generally. An interesting paper on "Curative Superstitions Still Obtaining in Dorset," which he read before the Dorset Field Club recently, and which was copiously reported in the *Dorset County Chronicle* of Feb. 5th, shows that he has applied himself with much acumen to the quest, and with signal success, as may be judged from the few extracts which we make. It should be stated that the author of the paper very properly [illegible] professions fo[illegible] about. An ol[illegible] zuffered tar'bl[illegible] us boys to Yeovil to have a wonderful receipt made up. We brought it back and put the bottle on the [illegible] med for a long time, and so [illegible] r never had a twing of the [illegible] broke it, and zure enough [illegible] om agin" A leading Dorset [illegible] an toothache was on his wa[illegible] the old client—a farmer. "[illegible] re dentist to have a tooth c[illegible] I'll tell 'e how to cure it Now you goo to a young w'oak tree and put ver y'arms round it, an' mark the place wher' yer vingers mate Then het a zlit in the bark we' yer knife, then put yer left han' behin' yer head and pull out zum hair behin' yer right ear and put it in the zlit o' the bark. Yer'll niver [illegible] The follow-ing cure, possibly of [illegible] Dorset: "Get an honest lav[illegible] ish it in an honest miller's millpond, dry it and iron it with an honest tailor's goose; if you can do that you will never have the toothache again" Mr. Rawlence was assured by a farmer that a "wise woman" whom he had consulted "always picked her herbs at midnight on a full moon, as they were more potent then." "Cures" and charms for warts are numerous, and some are given in the above paper The inquiries to which we have alluded are [illegible] garnered within the pages of a published book, should form an estimable contribution to the folklore of Dorsetshire.

"CHARLEYHORSE."

THIS word sounds veterinary rather than medical, but it is the adopted [illegible] condition at[illegible] analogous t[illegible] knee. Wit[illegible] name for [illegible] accompany [illegible] received a [illegible] teams of [illegible] common in England, as we do not think it will despite its influence in drawing money, there is no doubt many Englishmen will be familiar with the stiffness of the legs and arms known as "charleyhorse, the condition has received a place in American medical dictionaries as a recognised word.

THE AUTOMATIC REPRODUCTION OF DOCUMENTS

IN THE LANCET of Jan. 3rd we referred to a new method of *copying documents by photography that has been adopted* by the Bureau of Records in the Borough of Manhattan, New York. Our comment was based upon the apparent reasonableness of the process as described; we had not then seen the result Dr. William H Guilfoy, registrar of records, has now sent us a number of records thus copied, comprising copies of birth, marriage, and death [illegible] his body would in no [illegible] finally, a copy of the page of [illegible] p 51) on which our previous [illegible] copies, the text of which appea[illegible] und, are all clear, and obviou[illegible] error in transcribing.

THE EFFECTIVENESS OF MODERN HEALTH MEASURES.

AN interesting example of [illegible] measures is given in t[illegible] director of health at [illegible] September plague-infected rats [illegible] on Sept 22nd In carrying out antiplague measures in the building a *mummified rat and several plague-infected* [illegible] *on the ground floor* [illegible] of a Chinaman employed in the grocery store who had died suddenly on Sept. 20th, his death having been certified as due to pulmonary tuberculosis, was exhumed. The necropsy clearly disproved tuberculosis and gave indications of possible plague, though owing to the decomposi*tion* the diagnosis of plague could not be biologically [illegible] the flea transmission of plague.

CHICLE

THE modern prevalence of the use of chewing gum in the Western world makes a few details concerning the material of medical interest, for rightly or wrongly different pathological effects have been attributed to it Chewing gum is the product of the chicle tree (*Achras sapota*), which is indigenous in the States of Yucatan, Campeche, Tabasco, Chiapas, Vera Cruz, Oaxaca, Puebla, [illegible] and the Territories of Tepic and [illegible] s wild state the tree is [illegible] growing to a height of from 40 to 50 feet. A tree 25 years old, producing 20 to 25 pounds of chicle annually, will measure 25 to 30 feet in height and 22 inches in diameter. When eight to ten years old, and from 12 to 15 inches in diameter, the trees will yield from 5 to 6 pounds. The wood is reddish in colour, resembling mahogany in texture and grain. Prehistoric door-frames and rafters of this wood are found among the Mexican ruins to-day and are still in an excellent state of preservation. The trees are tapped throughout the rainy season by a V-shaped incision encircling the tree. The sap has a milk-white appearance as it flows from the tree, but afterwards becomes yellow, and thickens till it is about the same consistency as treacle. After collection the sap is carried to the boiling-sheds, where it is reduced to the proper consistency. During this operation it is necessary to knead the mass from time to time in order to drive off the water, when it should become lightish-grey in colour, although the exact shade varies according to the different districts of origin. The chicle is almost exclusively exported to the United States, where it is made into chewing-gum, and, according to the Mexican Year-book published in Mexico City, New York, and London (McCorquodale and Co., Limited), about 600,000 kilogrammes are exported to British Honduras, 870,000 kilogrammes to Canada, 1,700,000 to the United States, and only a few hundreds of kilogrammes to other countries.

THE SPREADING OF SCARLET FEVER.

AT Hitchin petty sessions recently a woman named Boyier was convicted upon a summons charging her with allowing her daughter, when suffering from scarlet fever, to be exposed without taking proper precautions against infection. The Hitchin rural district council were the prosecutors. In the locality where the girl lived there had been an outbreak of scarlet fever in November, followed by another early in January, and in the course of inquiries the girl mentioned was found in a peeling condition engaged upon ironing, having been excluded from school that day on account of her state. She had been playing a short time before with other children known to be infected and had recently been to a Sunday-school treat. Her father was employed in the milk trade. The mother declared that she did not know that her daughter had suffered from anything more than a cold. The bench seem to have come to the conclusion that the mother was negligent, but their decision as to her guilt was couched in somewhat ambiguous terms, the chairman being reported as saying that if the defendant did not know the nature of the disease she ought, as a mother of children, to have known. They would convict her, but as the local authority did not ask for a heavy penalty none would be inflicted. The bench wished, however, to caution her severely as to the future, and also wished others to know that they must not expose a patient suffering from scarlet fever.

THE "QUIDOS" CORK SANITARY CUSHION.

Mr. Leoline Edwards, of 81, St. Margarets-road, Twickenham, has sent us a specimen of a cushion seat for which he claims sanitary advantages. The seat is made of two pieces of green "rot-proof" canvas sewn together and filled with granulated "Quidos" cork. The canvas is sewn across in six parallel divisions, each division being filled with broken cork. This filling is non-conducting, and can be washed or disinfected by steam or heat without injury. The material, which is also used for mattresses and chairs, is very cleanly, and there can be no excuse for not keeping the cushion clean, since this can be done without spoiling the fabric.

AN ELASTIC TRUSS.

WE are asked by Mr. John Dee Shapland, M.R.C.S., of Exmouth, to say that the truss mentioned in THE LANCET of last week is made by Brook's Appliance Company, Bank Building, Kingsway, London, W.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, March 11th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 5	29·69	S.W.	0·01	60	53	49	49	51	Overcast
" 6	29·42	W.	0·06	97	58	50	48	51	Cloudy
" 7	29·59	W.	...	53	46	43	43	44	Raining
" 8	29·42	W.	0·25	59	52	44	46	47	Raining
" 9	29·48	N.	0·73	44	42	40	40	40	Raining
" 10	29·62	W.	0·52	80	43	36	36	37	Fine
" 11	29 97	W.	0 01	83	47	•33	33	34	Fine

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Discussion: The Constitution of the Atom (opened by Sir Ernest Rutherford).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Paper:

Dr. G. C. Low: The Therapeutic Uses of Emetine.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart C. Price-Jones): at 8.30 P.M.

Dr. J. F. Gaskell: The Lesions of the Kidney in Ulcerative Endocarditis.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4.30 P.M.

Cases:

Dr. Pernet: (1) Multiple Lupus Vulgaris; (2) Angioma Serpiginosum.

Dr. S. E. Dore: Multiple Subcutaneous Fibromata.

Dr. Norman Meachen: Persistent Erythema.

Dr. A. M. H. Gray: (1) Chronic Erythematous Eruption; (2) Acne Agminata with Bilateral Enlargement of Lachrymal Glands; (3) Recurrent Bullous Eruption of Legs.

And other Cases.

FRIDAY.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 8.30 P.M.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Demonstration of Pathological Specimens. Private Cases sent for Consultation. Clinical Cases will be shown by Dr. M. Dockrell, Dr. Bunch, Dr. Sibley, Dr. Phibbs, Dr. Gooding, and Dr. Griffith. 5.15 P.M., Paper:—Dr. Bremner (Leicester): The Frontiers of Dermatology.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Paper:—Mr. R. Burrows: Must a Prison Governor Keep Prisoners not Merely Safe, but Safe and Sound?

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Annual Clinical Debate on Arteriosclerosis. Paper:—Dr. L. Williams: Arteriosclerosis. Followed by a discussion in which Dr. Langdon Brown, Dr. C. Thomson, Dr. Furber, Dr. H. Dally, and others will take part.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

WEDNESDAY.—4 P.M., Epidiascope Demonstration.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Mr. E. H. Ross: House Flies and Disease.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY.—5 P.M., Goulstonian Lecture:—Dr. M. A. Cassidy: Rheumatoid Arthritis. (Lecture III.)

THURSDAY.—5 P.M. Lumleian Lecture: Dr. J. A. Ormerod: Some Modern Theories concerning Hysteria. (Lecture I.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies street, W.C.

MONDAY.—4 P.M., Dr. J. L. Bunch: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. J. Jex-Blake: The Nervous Complications of Diseases of the Chest.

TUESDAY.—4 P.M., Dr. R. H. Miller: Clinique (Medical). 5.15 P.M., Lecture:—Dr. S. A. Owen: The Clinical Significance of Enlargement of the Liver and Spleen in Infancy and Childhood.

WEDNESDAY.—4 P.M., Mr. G. Taylor: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. W. Carmalt Jones: The Classification of Arthritis.

THURSDAY.—4 P.M., Dr. G. Holmes: Clinique (Medical). 5.15 P.M., Lecture:—Dr. R. W. Allen: The Rôle and Scope of Vaccine Therapeutics in Medicine.

FRIDAY.—4 P.M., Mr. J. G. French: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Page: Spinal Anæsthesia.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Bernstein.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 11 A.M., Dr. Davis: Operations of the Throat, Nose, and Ear. 12 noon, Mr. Souttar: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Page: General Anæsthesia.

THURSDAY —9 A M, Dr Bernstein Bacterial Therapy Depart-

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NORTH EAST LONDON POST GRADUATE COLLEGE, Prince of Wales s General Hospital Tottenham, N

Open Method

WEDNESDAY —*Clinics* —2 P M, *Throat Operations (Mr Gillies)* 2.30 P M, Children s Out-patient (Dr T R Whipham) Skin

3 P M Clinical

Duncan)

THU

Giles)

Surgical

FRI

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End road, E

C

Nose and Throat

Ante-natal Pathology

enital Syphilis

of the Nervous System

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S W.

WEDNESDAY —4 30 P M, Lecture —Dr D Grant The Treatment of Tuberculosis of the Larynx

THE THROAT HOSPITAL, Golden square W

MONDAY —5 15 P M, Special Demonstration of Selected Cases

THURSDAY —5 15 P M, Clinical Lecture

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn road, W C

TUESDAY AND FRIDAY —3 P M, Lecture —Dr A Wylie Diseases *of the Larynx*

ARALYSED AND EPILEPTIC

ure —Dr J Collier Treatment

FRIDAY —3 30 P M, Clinical Lecture —Dr G Holmes Lesions of Visual Path

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital Hackney road N E

FRIDAY —4 P M, Lecture —Mr P L Mummery: Some Surgical Cases with Comments

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Room of the

lical Officers

FRIDAY —5 P M, The Diagnosis and Treatment of Tuberculosis &c — Lecture X —Dr F J Wethered Treatment—Sanatorium

MANCHESTER HOSPITALS POST GRADUATE CLINICS

TUESDAY —SALFORD ROYAL HOSPITAL—4 30 P M, Dr H Clifford

H H Rayner

næsthetics

W R Douglas:

J G Clegg

ROTUNDA HOSPITAL POST GRADUATE COURSES, Dublin

MONDAY —10 A.M, Obstetrical Lecture The Induction of Labour (continued) 11 A M, Examination of Patients and Minor Operations

TUESDAY —10 A M, Major Operations

WEDNESDAY —10 A M, Obstetrical Lecture Obstetrical Opera

of Patients and Minor Operations

ctomy its Forms

of Patients and

For further particulars of the above Lectures, &c, see Advertisement Pages

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Hunterian Lecture

ON

THE BIOLOGY OF TUMOURS.

Delivered before the Royal College of Surgeons of England on March 9th, 1914,

By C. MANSELL MOULLIN, M.A.,
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Mr. President, Fellows and Members of the College,—In the Bradshaw lecture which I had the honour of delivering before this College in November, 1912,[1] I endeavoured to show that the problem that underlies the biology of tumours is not the nature of the force that makes tumours grow, for growth, ceaseless, continuous growth, is a property innate in all living tissues, whether they form part of a tumour or not, but the nature of the force that can suddenly, at some particular spot, bring development to a standstill and liberate this innate power of growth so that the tissues increase and multiply as they will, free from all control. To-day I hope to be able to show that the action of this force can, in some instances at any rate, be traced back to interference with the chemical changes in the tissues upon which their development depends, and that the causes that give rise to this interference must be regarded as essential factors in the production of tumours.

The Influence of Development Over Growth and Reproduction.

Growth is part of the life of living things, and reproduction is only growth beyond the individual. The power of growth and reproduction is born in all living things with their birth, lives with them throughout their lives, and dies with them when they die. In the primitive forms of life this power knows no bounds. External conditions such as temperature and the supply of food are the only check upon it. But as development progresses and becomes more complex, the capacity for growth and reproduction diminishes, until at last, when the higher grades of specialisation are reached, the power of reproduction is all but lost, and even that of growth is greatly restricted.

The story of the race is an illustration of the way in which the progress of development deprives the primitive power of growth and reproduction of all its capabilities, one after the other. The first to disappear is the power of forming germs for the reproduction of the race. In the earliest forms of animal life this is common to the whole organism. Very soon it becomes limited to one small segment, which is specialised for this alone, and is lost to all the rest. The next is the power of forming buds able to reproduce the individual—a power still retained by such organisms as marine worms. A little later this is followed by the power of reproducing organs and limbs, though this still exists in a limited way even in animals so highly organised as reptiles. At last, all that is left of the original almost unlimited power is the ability to reproduce simple structures such as tissues. Throughout the history of the race, beginning from the earliest times, step by step as organisation advances and development becomes more complex the primitive power of growth and reproduction becomes more and more restricted.

What is true of the history of the race is no less true of the history of the individual. In the earliest moments of existence the power of growth and reproduction is almost unbounded, and is shared by all parts of the embryo alike. The first step is the differentiation of the germ cells from the rest which from that moment cease to have any direct concern with the maintenance of the race. The ability to throw off buds that can grow into organisms like the parent disappears almost at the same time; then the power of reproducing portions of the body such as limbs and organs. In a little while all that is left to the somatic cells of the almost unlimited capacity they once possessed is the power to reproduce tissues—highly complex ones—in early embryonic life, only those that are comparatively simple in adult years. And at last when specialisation has reached its highest point, as in the organs of special sense, even this is no longer possible. The power of growth remains, but not that of reproduction. As the tissues become better and better adapted to their own special work, and as their differentiation advances, they lose the ability to perform the general duties that once were common to them all, and with it their birthright, the power to grow and reproduce their kind. Growth and reproduction become more and more limited as development advances.

Tumours Formed by Gemmation, not by Fission.

Tumours originate as buds, by a process of gemmation, from tissues that are apparently normal. Structures formed by fission or division are not tumours in the same sense of the term. Unless prevented by mechanical conditions the parts into which they divide develop equally. A fertilised ovum, for example, or in the case of unicellular reproduction, a bud that has just been detached from the parent organism, may increase in size so fast that any slight accident or movement is enough to cause the primary segments to separate from each other. If the separation is complete and the other conditions are favourable, two distinct organisms are produced, resembling each other so closely that even late in life they cannot always be distinguished, as in the well known instance of the two poachers who, although they had been convicted, one it is believed 39 times and the other 53, were yet a hopeless puzzle to the village constable and the bench. If the separation is incomplete the result is one of those double monstrosities so common in our museums, which sometimes are born alive and even reach old age. The same thing is true of bifid limbs and other organs. They originate in the same way, at a later stage, as the products of overgrowth of normal structures or of too rapid growth. Sometimes, when one part is developed fully and the other remains stunted and atrophied. it is not easy to recognise the relation they bear to each other, but, as Bland-Sutton has pointed out, their origin can always be ascertained by their similarity at the point of division. Structures such as these should be placed in a class by themselves. They differ from what are commonly called tumours in one essential particular—there is no arrest of development except such as may be caused by pressure or other mechanical causes.

Of the Different Kinds of Tumours.

Buds that grow out from normal tissues and form tumours always develop along the same line as the parent stock, but never reach a higher stage and reached maturity will grow into a malignant one if it is still in the embryonic stage. Every innocent tumour has its counterpart among malignant growths. Innocent and malignant spring alike from the same cells, but in the one case the parent has already reached, or nearly reached, maturity, for it is doubtful if fully mature cells ever form tumours; in the other it is still in the embryonic stage, with all the embryonic vigour of growth unimpaired.

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[1] The Lancet, Dec. 7th, 1912, p. 1567.

Sarcoma and carcinoma are artificial groups, not natural ones. It is not possible to define or limit either of them. Because all cells resemble each other in their embryonic stage, regardless of locality or future destiny, the tumours that spring from them at this stage naturally resemble each other too, for the tumour cell never advances in development beyond the point the parent has reached at the moment of its birth. For this reason, because there is this superficial resemblance, all tumours springing from embryonic tissues, or tissues resembling them, have hitherto been grouped together under one or other of these names. But there are great differences in the potentialities of these tumour cells, though they may appear to be so much alike, because there are great differences in the potentialities of the cells from which they spring, and the tumours show these differences if they are looked for. The cancer of one organ is entirely different from the cancer of every other organ, and the clinical history of periosteal sarcoma varies with the bone to which the periosteum belongs. Each organ and each tissue has its own variety of malignant tumour, just as it has its own variety of innocent tumour, though the microscope may be unable to distinguish them, and the innocent tumours of each organ shade off by imperceptible stages into the malignant ones, so that together they form one group. No line can be drawn between them. The structure of a tumour depends upon that of the parent tissue; its character, whether it will be innocent or malignant, depends upon the degree of maturity of the cell that gives off the bud.

FEATURES COMMON TO ALL TUMOURS.

There are certain features common to all tumours. They become much more common as the tissues grow old. They occur most frequently in parts of the body that are liable to be irritated, in which, therefore, young growing cells are always abundant. Their size continues to increase as long as they can get supplies. Their development never advances. It never surpasses that of the parent at the moment that the bud was formed, and seldom equals it. Their individuality is their own, and they yield no obedience to the laws that govern the growth and development of the host on which they live. They are, in other words, buds that have grown beyond the individual, products of that power of asexual reproduction which is the birthright of all the tissues.

The problem of the biology of tumours turns upon the question why one particular cell, or group of cells, suddenly ceases to develop, ceases to advance along the lines laid down for it in the past, and, instead, makes use of all that it still retains of its primitive power of growth and reproduction to give birth to what is to all intents and purposes another individual. What, in other words, is the reason why development comes to a standstill, and the growth of the individual cell, or group of cells, is suddenly given up for growth beyond the individual?

THE EFFECT OF INTERFERING WITH THE CHEMISTRY OF THE TISSUES.

Growth and development are both the outcome of the chemical changes that take place in living tissues—the changes upon which their life depends. This is acknowledged in the case of growth. Foreign substances come into contact with a living cell. They are absorbed by it and broken up in it by catalytic agents. The products of this catalysis are built up again in a different combination, and if the addition exceeds the consumption the result is, first, increase in size, and then, if circumstances are favourable, increase in number, each newly formed cell possessing the same power as the parent of which it once was part.

The same thing is true of development. Development, like growth, is the outcome of chemical changes that take place in the living cell, but with this difference, that while growth depends upon the maintenance of all the reactions in their relative proportions, development depends upon the predominance of one. Development is the result of one of these chemical reactions, or rather of one series of them, being carried on in excess of all the rest for generation after generation. Division of labour means that every part of the body has to undertake a special kind of work. Special work entails a special chemical reaction or series of reactions. The more thoroughly the work is done, the more completely does this special reaction predominate over all the others at that particular spot. This, continued in the same group of cells for generation after generation, of necessity involves progressive modification of chemical constitution and of structure, or, in other words, development.

The layer of cells, for example, on the exterior of the organism, always exposed to foreign influences, becomes modified in course of time. They become harder and more resistant. Keratin or some similar substance forms in them, and as generation succeeds generation and a similar modification takes place in each, at last an outer protecting layer is developed characteristic of that particular kind of organism. The same thing is true of the cells that line the digestive tract. Their special work, or one part of it, is the manufacture and discharge of catalytic ferments. The chemical reactions upon which their working depends have been gradually evolved in the course of ages from simpler ones of the same kind. According to Twort and others the process of chemical evolution is still going on. New ferments are being formed, even at the present time, to deal with new conditions, and structure and arrangement are modified accordingly. So it is with other tissues and other parts of the body—those, for example, that are concerned with the transmission of impulses from one organ to another. Special work involves the evolution of special chemical reactions; and as generation succeeds generation and the reactions become better adapted to the end in view, the structure and arrangement of the part become modified to suit. Development, in other words, is the outcome of the persistent cultivation of a special series of chemical actions, necessitated by the special work the part has been called upon to do.

If these chemical changes are interrupted at any point before the reaction is completed; if, for example, some essential factor fails to be supplied at the right moment, or an unnecessary one is introduced, the special work that depends upon that reaction is brought to an immediate standstill; differentiation ceases with it, and no matter at what stage it may be, whether it is nearly completed or only just beginning, development comes to an end. Growth, on the other hand, because it is not concerned in the least with this special reaction, continues as before, but with all the conditions changed. The native power of asexual reproduction, which is kept under control so long as development is progressing, is now set free in its full strength, and the result is a tumour—a growth that reproduces more or less accurately the structure of the parent tissue, whatever it may be at the moment, with an individuality of its own, incapable of higher development, for the special chemical reaction upon which development depends is broken off, but capable of increasing in size so long as it can draw supplies.

The Production and the Disappearance of Tumours.

So little is known of the intimate nature of the chemical changes that take place in the tissues that it is not easy to cite instances in which the failure of any particular one has led directly to the cessation of development and the production of a tumour. There are, however, many isolated facts that point in this direction. One of these relates to the occasional disappearance of tumours. It is well known that tumours, especially those of an embryonic type, sometimes stop growing, diminish in size, and even disappear under the influence of remedies which can only act through the medium of the general nutrition. Carcinoma of the breast, for example, has been known to shrink in size and even to disappear after oophorectomy. The same thing occasionally happens without special treatment of any kind, perhaps more frequently than is usually believed. At least it is difficult in any other way to account for the single successes of weird remedies which are recorded from time to time, apparently in perfect good faith, and which can never be repeated. In the case of most of these it is not possible to say how or by what means the remedy acts; but in some it is almost certain that the effect is due to the reagent entering into chemical combination with the living substance of the tumour cells. Arsenic, for instance, administered internally sometimes causes lymphadenomatous growths to recede and almost disappear. Then, only too often, after a little while the growth begins to increase in size again, and now the same drug, even in far larger doses, has absolutely no effect. The same thing is true of Coley's toxins in cases of sarcoma. It is not uncommon to find that a sarcomatous growth diminishes greatly in size after a few injections, without disappearing altogether, and then starts growing again in a form that is absolutely resistant even to much larger quantities. The tumour cells, in other words, have acquired immunity and have become arsenic-fast or toxin-fast, as the case may be, just as Ehrlich has shown the spirochæta can, and for the same reason—the drug has entered into chemical combination with some element in the substance of the growing cell.

Another of these facts, in many ways even more striking, relates to the production of tumours. It is generally admitted that the continued employment of certain substances, in industry as well as in medicine, is liable to be followed by the growth of certain kinds of tumours. The substances themselves are not the immediate cause of the growth. There is often an interval of years between their administration and the appearance of the tumour. But they initiate such changes in the nutrition of the tissues that when irritation of any kind, whether it is mechanical or chemical or due to the action of living organisms, leads to the rapid production of a large number of young cells, some of these cells fail to develop as they otherwise would, and form the basis from which a tumour grows. This has long been known in connexion with arsenic. The late Sir Jonathan Hutchinson was the first to lay emphasis upon the fact that the prolonged internal administration of arsenic sometimes led to the development of multiple epitheliomata. The nutrition of the skin becomes affected; its texture becomes altered, and then, at some spot where continued irritation leads to the rapid production of a number of young cells, epithelioma develops.

A closely similar course of events has been described in connexion with some of the anilin dyes, only in this case the tumours do not involve the skin but the urinary organs, and assume different forms according to their origin. Rehn in 1906 had already collected more than 30 cases of workers in fuchsin who were suffering from some form of tumour of the bladder. Leuenberger has collected many more, and has shown that in Basle the deaths caused by tumours of the bladder in the years 1901–10 were 33 times more common among the workers in anilin colours and similar substances than they were among the rest of the male population; and that more than half of the cases of tumour of the bladder observed in the last 50 years in the male surgical clinic at Basle came from dyers and those engaged in anilin dye works. In the majority of the cases observed by Leuenberger himself the growth was a carcinoma, but in some it was a sarcoma and in others it was mixed. Some grew in the bladder, others in the kidney and ureter; and what is of peculiar significance, in some instances the growths did not make their appearance, or at least cause symptoms, until years after the worker had left his employment. A similar condition of things has been recorded of the workers in the cobalt mines of the Schneeberg, only in this case the growths which are equally varied in their character are met with in the lungs. The papillomata and other tumours that so often follow the continued application to the skin of soot, tar, paraffin, and the like, arise in a similar manner. Some substance is absorbed and affects the nutrition and the functional activity of the skin, so that it becomes harsh and dry. The cells no longer carry on their special work as they should. Their development, which depends upon their work, ceases to advance. The power of growth and asexual reproduction, on the other hand, which is theirs so long as they are living, and which does not depend upon any special reaction, is not affected. The result is an unlimited multiplication of cells the degree of whose development depends upon that of the parent stock at the moment. If the affected cells have all but reached perfection before the interference is felt, the buds that grow from them are all but perfect too. The tumour is composed of tissues that resemble those of the normal skin. But if owing to irritation, whether it is mechanical or chemical, or due to the action of living organisms, there is a great increase in the proportion of young rapidly growing cells, and the development of these is checked, the buds that spring from them [illegible] th[illegible] [illegible] th.

growth increases rapidly in size and spreads wherever it can.

Facts such as these, it seems to me, admit of but one explanation. Tumours, no matter what their clinical character may be, are caused by the sudden escape from control of the innate power of asexual reproduction present in some measure in all tissues as part of their life. So long as development is advancing, growth and reproduction are under control. But development depends upon special work, and work in its turn depends upon the special chemical reactions which have been evolved in the course of ages and are still being evolved. If these reactions are interfered with, whether by the addition of strange elements or the failure to supply necessary ones, work comes to an end; development stops with it; and the power of growth and reproduction, or that measure of it which the tissues possess at the moment, is set free without limit, except in so far as supplies are concerned, and without control.

In the illustrations I have given the interference with the nutrition and the chemical reactions of the tissues has been caused by the slow continuous working of substances introduced into the body from without. Some have entered through the digestive tract, others through the lungs, and others again through the skin. It does not seem to me unwarrantable to assume that a similar interference can be caused by substances produced in the body itself, more especially as age advances. It need not necessarily be at the place from which the tumour grows. It may be at some distant spot from which the substance is carried by the blood stream, as it is, for example, in the case of arsenic. It may be some minute difference in one of the constituent elements of which we are as yet incapable of judging, or there may be an additional one introduced, or some essential one may fail at the moment it is wanted. Whatever it is, this I venture to say is the direction in which we are to look for the next great advance in the biology of tumours, and this is the direction in which investigation should be made.

THE TECHNIQUE OF THE OPERATION OF SCLERO-CORNEAL TREPHINING FOR GLAUCOMA.

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WHEN the writer left India the Madras figures showed over 900 trephinings, and the number of surgeons who had learnt to practise this operation there could be counted by tens. Since then he has had the opportunity of trephining 135 eyes in the course of a tour in America, and of performing the same operation on a number of cases in England. In both countries he has had the great advantage of receiving very valuable suggestions from those who attended his demonstrations. The object of this paper is to place the experience so gained at the disposal of others.

1. *In which quadrant of the eye should the trephine be applied?*—It is obvious that under most circumstances the upper is the quadrant of choice, for (1) the wound is then less exposed to infection; (2) the iridectomy, if one is performed, lies under cover of the lid; (3) the conjunctival flap rarely requires a stitch when made above; and (4) the measurement from the angle of the anterior chamber to the limbus, and consequently the space available for the implantation of a trephine, is greatest above. It is not, however, possible to trephine above the cornea in all cases, and it is inconvenient to do so in some others—viz., (1) when a patient is troublesome, and looks obstinately upward; (2) when the operation is undertaken for the relief of staphyloma, and the upper part of the cornea is involved in the swelling; (3) when, in chronic cases, it is obvious that the chamber is shallower in an upward direction than elsewhere; and (4) when a condition similar to the last named is due to anterior synechia, accompanied by rise of tension.

2. *The nature of the flap and the method of making it.*—In making the conjunctival flap one should avoid the brow with the scissors; if this be not done the eyebrows will be cut and dropped on to the wound, thus soiling it.

(i.) *The incision.*—The conjunctiva should be seized as high up as possible on the bulb with forceps, and drawn well down, at the same time asking the patient to look strongly downward; one free cut in the direction in which the flap is to be made, followed by a couple of snips at each side, will often outline the flap throughout its extent. The incision we now employ runs roughly concentric with the limbus, and ends on either side opposite the highest point of the cornea, and about 8 mm. to its inner and outer sides.

(ii.) *The dissection of the flap.—It is unnecessary, and therefore unsurgical, to dissect up the whole area included in the flap;* moreover, by so doing we rob the flap of the check-ligament-like action of the connective tissue at the angles of the wound. If we leave this tissue intact, the detached conjunctiva tends to spring back into place when released from the downward pull, whilst if we clear the margins of our wound we find that at the end of the operation the flap falls limp and inert over the cornea like a loose apron. We should for this reason carry our dissection down to the limbus over the central area only. Such a procedure does not in the least prevent us from exposing the part we require for trephining, whilst it helps very materially to make our flap lie in good position when the operation is finished, and so often enables us to dispense with the use of a suture. In the upper portion of the dissection we do not need to take up anything but the loose conjunctiva. *As we approach the limbus we should work down to the sclera, and should expose the latter bare in the last few millimetres of the wound.* At the same time the breadth of the dissection should contract as we approach the cornea, so that when we reach the latter we only expose just such a breadth of it as we mean to split, and very little more. Our *next landmark is the limbus, and we must clearly define this* as a rounded ridge slightly overhanging the adjacent sclera. A failure to do so involves a considerable risk of difficulty when we come to split the cornea in the next stage of the operation. *The area over which we are about to apply the trephine must be carefully cleared of all tags of loose tissue;* if this precaution is neglected, the trephine will not bite well, and will tend to shift from its position; moreover, when it does begin to cut, these tags may get caught in the action and tend to draw the flap into the wound and damage it. There is a little knack in getting the sclera clear; this consists in closing the blades of a sharp-pointed scissors (those we have used so far in the operation), and making a number of scraping movements *from the centre of the wound out to each side*, close above the cornea; this manœuvre succeeds in clearing the central area of loose tissue, and so provides a clean surface on which to apply the trephine blade at a later stage of the operation.

(iii.) *The splitting of the cornea.*—It must first be clearly stated that what we desire to do is to *split the cornea* and not to cut it. For this purpose the conjunctival flap should be drawn gently downwards by traction with closed forceps laid on it, and finding counter-pressure against the cornea; it must on no account be seized in the grip of forceps and pulled down therewith, or it may easily be torn and rendered useless for covering the filtration hole. At the same time, the cornea is split with the scissor points, which are kept closed for the purpose; or any other convenient instrument may be employed. The most important point is to *work at exactly the right place*—i.e., just behind the line of reflection of the flap; a number of short lateral strokes along this line speedily effect our purpose in most cases. If the cuts are made too far forwards the flap is at once button-holed, whilst if they are made too far back the surgeon merely wastes his time in an ineffective scratching of the sclera. The instrument is inclined at an acute angle to the cornea, bearing in mind that what we want to do is to peel off the superficial layers in a thin flap. As the dissection proceeds the so-called "dark crescent" of cornea can be seen clearly as a dark area convex in outline towards the sclera, and with a straight edge on the corneal side.

3. *The application of the trephine.*—With increasing experience one thing has become absolutely clear—viz., that if we wish to trephine the chamber and to establish a permanent filtering channel with a minimum of trouble, we have to be careful to place our trephine hole as far forward as possible; the flap should be pulled gently towards the centre of the cornea by traction exerted with the points of the closed forceps, and the trephine placed on the prepared corneo-scleral surface so that its edge will *just clear* the flap, thus making use of every fraction of a millimetre of the area which has been gained by the splitting; the dark crescent of corneal tissue bordering the base of the flap can very easily be seen and defined. The trephine should not be dumped down on the spot on which it is to work, but should be slid into place from the scleral side, the edge of the flap being keenly watched the while; this manœuvre greatly minimises the risk of button-holing the reflected edge. The *exact amount of pressure necessary* can only be learnt by experience. The adoption of the heavier handle which we now use has greatly simplified this part of the technique. No pressure need be used, as the instrument works by its own weight, and consequently the tendency of the fingers to slip down is practically abolished. All the instrument makers who manufacture the author's trephine have been requested to supply in future the heavier weight of handle—viz., one of ½ oz. *The direction in which the blade of the trephine is to be held relative to the corneo-scleral surface* is a matter of great importance. Our object should therefore be to make the blade cut through first on its corneal edge, and in order to ensure this we must slope its handle-end a little towards the patient's feet. The result will be that as soon as the trephine has cut its way through, the disc, hinged on its scleral side, will be pushed upwards and backwards by a bead of iris tissue, prolapsing through the corneal side of the opening. If the manœuvre is correctly carried out this prolapse occurs with great regularity. It is, however, dependent on two factors—(1) the presence of a moderately contracted pupil before the operation is commenced, and (2) the use of a sharp trephine. The next question of importance is *the size of trephine* to use. We have tried all sizes from 3·5 mm. down to 1 mm., and our personal preference is, on the whole, in favour of a 2 mm. instrument. An opening of this size is practically always large enough, whilst a smaller one has this grave disadvantage—that it does not give room for the use of iris forceps and scissors, should the iris happen to be accidentally dragged into the wound and impacted there.

4. *The iridectomy: its nature and the method of performing it.*—An iridectomy should be made, as a routine step, in every trephining operation, simply to avoid the risk of iridic tissue becoming impacted in the trephine aperture during convalescence. It is a common experience that the trephine disc, when cut by hand (as opposed to the use of a mechanical trephine), remains attached at one point to the scleral coat by a narrow hinge. With a little practice it is possible, as indicated in the last section, so to trephine that the hinge is regularly left on the scleral side of our wound. When this is done with a sharp trephine which cuts its way through round a large part of the circumference we find that the iris bulges into the hole as soon as we withdraw the instrument. The appearance of the little white disc, pushed upwards by the small black bead of iris is characteristic, and it is an easy matter to include both disc and iris in one grip of the forceps and to divide both together with a single snip of the scissor points, thus performing our iridectomy with the same cut that severs the hinge. The great advantage of this is that our grip of the disc steadies the eye and effectively prevents even a troublesome patient from rotating it until after the portion of iris has been removed. We are thus enabled to avoid all risk of the uveal tissue being dragged into and becoming impacted in the trephine hole. When the prolapse is free and large, it is necessary to avoid seizing the whole of it in the forceps grip; it is not difficult to lay hold of just so much of it as lies near the disc—i.e., the peripheral portion only—and we thus obtain a marginal button-hole coloboma.

Having satisfied ourselves that the iris is well returned we next replace the conjunctival flap in good position, by first laying it back over the raw surface from which it was dissected up, and then stroking it well into place with the aid of a spoon or of some similar rounded and blunt instrument. If after so doing, the surgeon waits a minute or two, he will soon see whether the flap is going to adhere to its bed or not. If it rapidly becomes stuck down, and if the gap made by the incision in the conjunctiva is easily reduced to very narrow proportions, he can confidently close the eye and dismiss the patient to bed. But if the wound gap is wide, and if the flap shows a tendency to be very easily displaced by slight movements of the globe, it is better to insert a suture at once rather than to risk the inconvenience of having to do so the next day.

The toilette of the wound.—It is most important that the iris should be thoroughly replaced, and that no uveal tags should be left in the wound. For this purpose we use a small irrigator, and placing the nozzle at the entrance of the trephine hole, we direct a bold stream of aseptic saline solution into the chamber; this easily and quickly washes the iris back into place, always provided that it has not been dragged into the wound and impacted there at an earlier stage of the procedure. At the same time the chamber is washed free of any blood which has been effused, thus giving us a clear view of details. Finally, the upper lid is lifted off the eyeball and brought down to meet the lower one, the patient being at the same time told to look up and to close his eyes. Immediately before doing this, however, we gently stroke the cornea toward the trephine hole with a curette, in order to ascertain whether the eyeball is still soft, and whether the escape of aqueous from the chamber is free. Both eyes are then closed with aseptic pads and a bandage.

Instillation of drops.—Our rule is to avoid all instillation immediately after operation unless the pupil shows a tendency towards upward displacement, in which case eserine drops (gr. 4 ad oz. 1) are instilled. On the third day, provided that the tension is down, we drop in a solution of atropine (gr. 4 ad oz. 1) unless the pupil is already widely dilated and active.

Harley-street, W.

ON THE NATURE OF RODENT ULCER:

ITS RELATIONSHIP TO EPITHELIOMA ADENOIDES CYSTICUM OF BROOKE AND TO OTHER TRICHO-EPITHELIOMATA OF BENIGN NÆVOID CHARACTER; ITS DISTINCTION FROM MALIGNANT CARCINOMA.

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Rodent ulcer, ever since it was first described by Jacob of Dublin in 1827, has continued to attract great attention in this country. It has been looked upon by most British observers as distinct in its clinical features and in its pathology from other forms of malignant epithelioma of the skin. Continental authorities, with but few exceptions, which include particularly Unna, of Hamburg, and Dubreuilh, of Bordeaux, have not until recent years recognised rodent ulcer as a special type of epithelioma.

Dubreuilh and Auché in 1901, in an important monograph on rodent ulcer,[1] summarise very clearly the history of the differentiation of rodent ulcer from squamous-cell epithelioma in this country. They divide it into three periods. The first period extends from its description by Jacob to Hutchinson's memoir in 1860. During this period the clinical characters of rodent ulcer were discussed and it was separated from "epithelioma" of the face, which invaded the glands and of which the malignancy was obvious. In the next period the differences between the histological characters of rodent ulcer and of squamous-cell epithelioma were considered—it was pointed out that the cells of rodent ulcer were smaller than those of squamous-cell epithelioma, that they were arranged in lobules, and that they did not form horny cell-nests. Rodent ulcer was recognised as an epithelial growth, but was refused the name of "epithelioma," which was reserved for the frankly malignant growths with horny pearls. These ideas reached their climax with the work of Thin in 1886. Then followed a third period in which the origin of the cells of rodent ulcer was investigated by Beadles, Bidwell, Bowlby, Colcott Fox, Paul, Spencer, Norman Walker, Hutchinson, Thin, and Kanthack (and it may be added by Noon). Most observers regarded it as taking origin from the hair follicles or sebaceous glands, though some thought it might arise from sweat glands.

In Germany rodent ulcer was confounded with other varieties of epithelioma of the skin until Unna and Thiersch called attention to the work of English authorities on the subject. Later German writers recognise rodent ulcer as a special type of epithelioma arising in connexion with the hair follicles, and call it tricho-epithelioma. In France the English work was entirely ignored until Dubreuilh wrote on the subject.

The object of this paper is to bring forward evidence in support of the view that rodent ulcer is an affection distinct from true malignant carcinoma and to expand a suggestion which was made by the writer in the Goulstonian lectures in 1912[2] that rodent ulcer belongs to the class of nævoid growths which include adenoma sebaceum and multiple benign cystic epithelioma (or tricho-epithelioma papulosum).

True carcinoma cannot be regarded as a nævoid growth or an awakened embryonic cell-rest in the sense of Cohnheim's theory. It is more readily explained as an unrestrained proliferation of epithelial cells due to [illegible] relationships and of the normal balance of growth between the epithelial and the connective tissue, as the result of previous damage to the skin.

A striking feature in the etiology of squamous cell epithelioma, in contrast to that of rodent ulcer, is that it arises always upon skin or mucous membrane which has been previously damaged by injury or which has been the seat of long-continued local irritation. Among these "precancerous" conditions are scars from burns, old syphilitic scars or the scars of lupus, chronic irritation of the lower lip from pipe-smoking, leucoplakia of the tongue or vulva, the scars of X ray burns, and, perhaps most common of all, the results of chronic dermatitis produced by frequent exposure to sunlight and known as keratosis senilis, sailor's skin or tropical skin. The same may be said of carcinoma, which occurs at the pylorus, in the gall duct or gall bladder, at the cervix uteri, and in the lower part of the bowel. All these parts are liable to chronic inflammation or ulcerations, and carcinoma in these spots is probably consecutive to these conditions. The theory of dormant embryonic masses cannot explain these facts. The formation of carcinoma can be more reasonably attributed to an irregular proliferation of the epithelial cells, as a result of the loss of normal relations between the epidermis and the subjacent tissue. The anatomical balance between different tissues which normally prevents the epithelium from invading the connective tissue is disturbed by damage and partial repair. Disturbance of the anatomical balance is assisted possibly by an upset of the biochemical balance owing to alterations in the nutrition and metabolism of the cells due to age or to the harmful action of agents such as light or X rays.

In sections of keratosis senilis and of X ray scars one may study this gradual disturbance of the balance of growth, beginning with irregular restoration of the epidermis, through warty growths, to the final stage, in which the irregular growths of the epidermis advance completely out of line and invade the spaces between the connective tissue cells. The study of these affections of the skin would seem to suggest that true carcinoma, in whichever situation, is the result of a disturbance of the normal balance of growth between epithelial and adjacent tissues as the result of previous damage, and there seems to be no need to invoke the aid of embryonic cell-rests or of microbic invasion.

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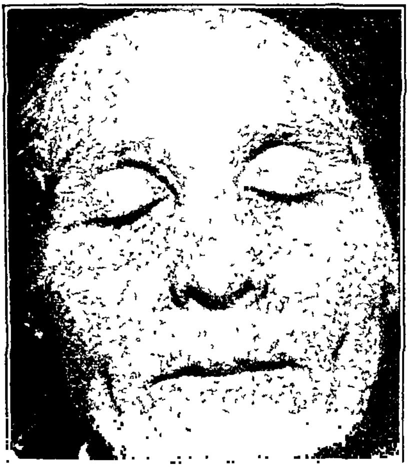
[1] Annales de Dermatologie et de Syphilographie.

[2] The Lancet, April 20th, 1912, p. 1041.

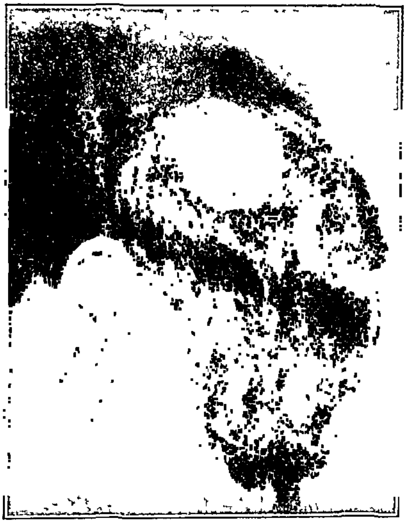
FIG. 1.



Case 1. Epithelioma adenoides cysticum. Reproduction of photograph showing numerous raised rounded tumours situated especially round the eyelids, at the sides of the nose, on the temples, and about the ears

Although it destroys subjacent tissues, it does not invade the lymphatic spaces. Corresponding with the absence of lymphatic invasion, gland infection, and metastases there is an absence of the general disturbance of the health—of the cachexia—which accompanies true carcinoma.

FIG 2.



Case 2 From photograph showing the two largest tumours on the scalp These will be recognised as the growths

FIG 3

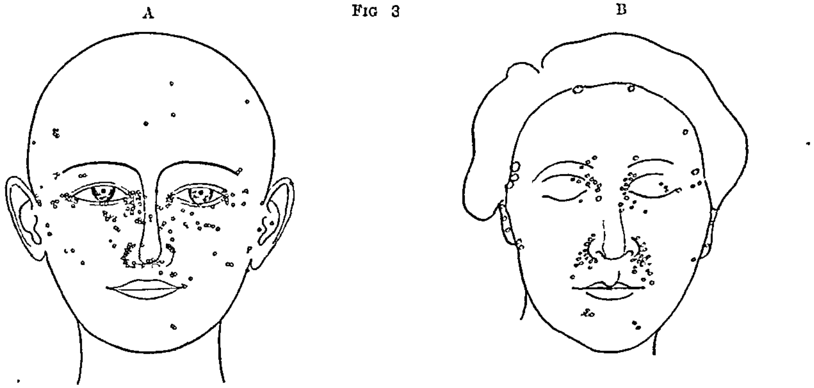


Diagram illustrating sites of origin of 220 cases of rodent ulcer (basal-celled carcinoma) on the face (Dr J. H. Sequeira)

Diagram showing the distribution of the tumours in a case of epithelioma adenoides cysticum (Case 1).

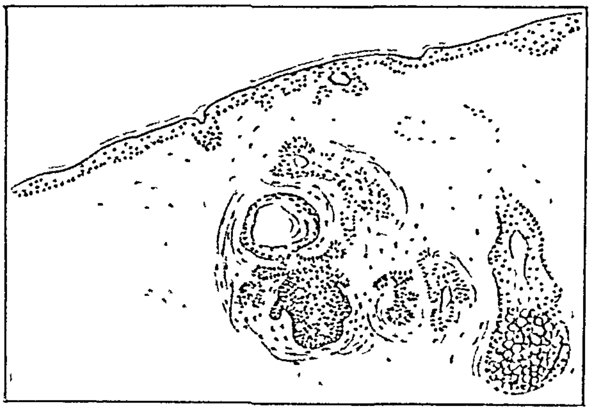
In rodent ulcer, on the contrary, the growths arise, not in areas which have been the site of previous damage, but in regions where benign growths of similar structure and admittedly nævoid nature are known to occur. Rodent ulcer, moreover, does not occur on mucous membranes.

In THE LANCET of Oct. 17th, 1908, I published an account of two cases of multiple rodent ulcer, and drew attention to the close resemblance between the histological features of multiple rodent ulcer and the benign nævoid growths known as epithelioma adenoides cysticum of Brooke. Both these affections are epithelial growths derived from those cells of the basal layer of the epidermis which are normally destined to become pilo-sebaceous follicles; in one word, both are tricho-epitheliomata. They differ mainly in that the rodent ulcer tumours appear late in life and tend to ulcerate, while the benign form appears in childhood and does not ulcerate. They have the same distribution, and before ulceration of the rodent tumours the same clinical appearance. That these affections were in some way related was not a new view, and Jarisch had already suggested the name "tricho-epithelioma papulosum multiplex" for Brooke's disease, and "tricho-epithelioma papulosum rodens" for multiple rodent ulcer.

At the time of writing the paper referred to I had had no opportunity of studying any example of Brooke's affections at first hand, but the following cases have recently come under my care, and they fully confirm the opinion I then expressed as to the close resemblance of rodent ulcer to the "benign" tumours.

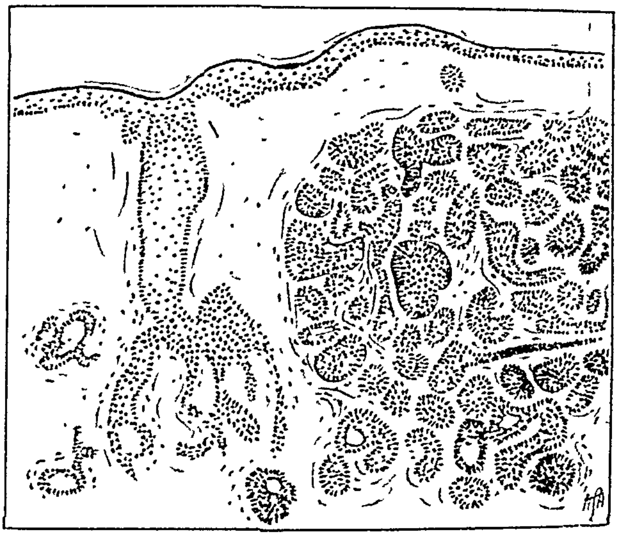
Four cases of epithelioma adenoides cysticum in one family.—These cases show the resemblance to rodent ulcer in appearance, distribution, and pathological anatomy of the growths.

FIG. 4.



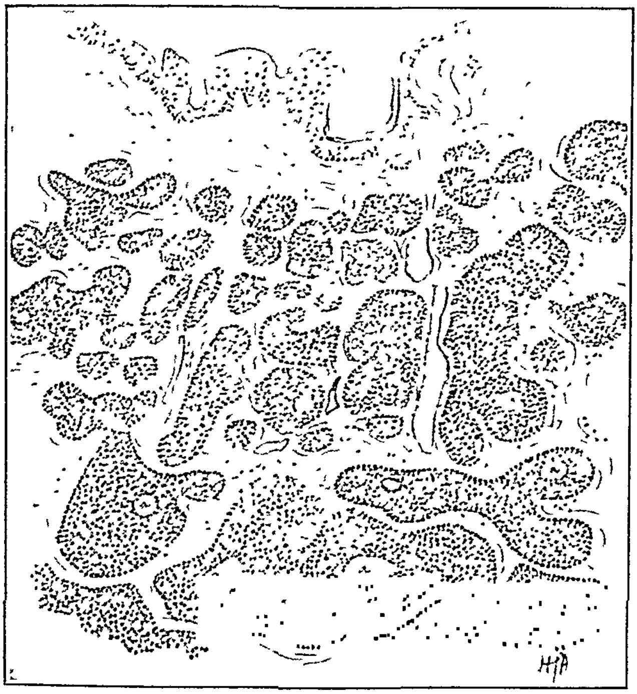
Section at the margin of a tumour from the forehead of Case 1, showing early tricho epithelioma and a small sebaceous gland. (In Figs. 4, 5, and 8 the sections were kindly prepared by Mr. R. G. Canti.)

FIG. 5.



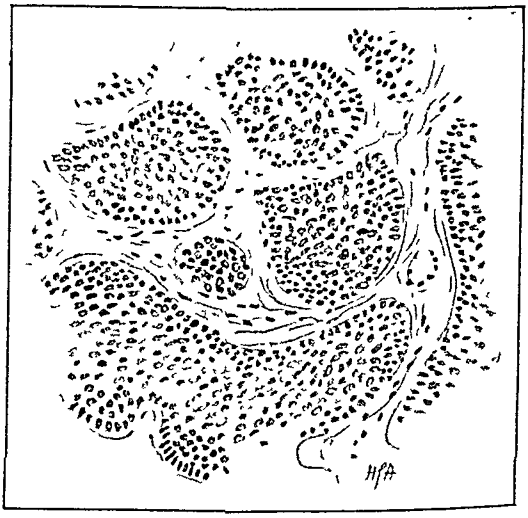
Section from a small tumour from the face of Case 1, showing lobulated growth resembling rodent ulcer.

FIG. 6.



Section from a large tumour of the scalp from Case 2, showing lobulated growth resembling rodent ulcer; at *a*, *a*, *a*, *a* are "cysts." (In Figs. 6 and 7 the sections were kindly prepared by Mr. K. J. A. Davis.)

FIG. 7.

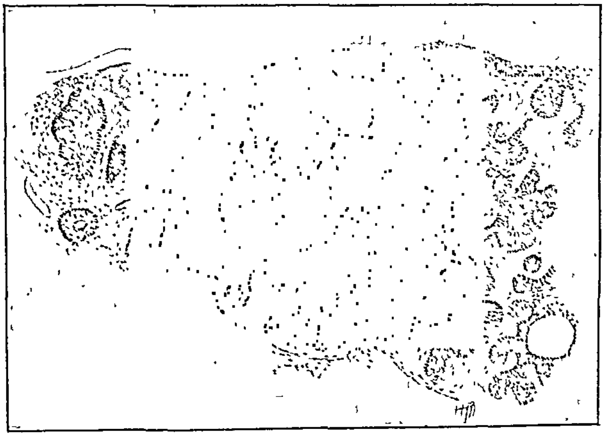


Section (high-power) from large tumour in Case 2, showing lobules made up of oval cells with large nucleus and little or no visible protoplasm. The section shows also the hyaline bodies described by Dubreuilh in sections from a similar case of benign epithelioma of the scalp.

CASE 1.—Housewife, aged 45 years. The eruption was first noticed at the age of 35–37 years. This is not in accordance with the rule that these benign growths appear in late childhood or at about puberty. But they may have been small and unnoticed by the patient, as in the case of her daughter which will be presently mentioned. They increased gradually and more noticeably after confinements. The "eruption" consists of raised rounded nodules, varying in size from that of a pin's head up to nodules half an inch across. They are situated (Fig. 1) in groups: (1) in the naso-labial furrow; (2) at the inner side of the orbit; (3) on the temples; and there are scattered nodules on the forehead and cheeks, on the sides of the neck and behind the ear, on the scalp, and on the shoulders. The nodules are raised, firm, hemispherical, almost waxy in appearance, of the colour of the skin, or, in the case of the larger nodules, dusky red. Minute vessels are coursing over the larger nodules. They all have much the appearance of the rolled edge of a rodent ulcer, but none are ulcerated or crusted, and there are no scars. The nodules on the temples, at the inner orbits, and in the naso-labial furrows are small, from pin-head to split-pea size, and closely packed.

CASE 2.—A son of the previous patient, aged 21 years, presents similar nodules on the face in the same situations and also several much larger spherical nodules on the scalp. The latter are as large as walnuts and prevent him putting on his hat, except at an acute angle. (Fig. 2.) Nothing was noticed on his face until two years ago, but the largest nodule appeared on the head three years ago, and rapidly increased to its present size. The nodules on the scalp are free from hair. There is also a nodule on the chest below the right clavicle, raised, flat, red, and as large as half a marble. The largest nodule on the scalp was removed and examined microscopically.

FIG. 8.



Section of growth from lower eyelid (Case 5) which had been present since childhood. It is obviously a basal-cell epithelioma of rodent ulcer type. It was associated with a typical rodent ulcer of the naso-labial fold, which had appeared in middle life

Incidentally it may be remarked that this case is an example of the so-called endothelioma of the scalp of Spiegler and Mulert, which Dubreuilh and Auché have shown to be a benign epithelioma derived from the basal-cell layer of the epidermis, and to resemble histologically rodent ulcer.[3] The association of the multiple tumours of the scalp in this case with epithelioma adenoides cysticum is interesting and helps to place these tumours in their true position as tricho-epitheliomata, as suggested by their histology. Friebos has recently published a similar case of multiple benign tumours of the scalp associated with multiple tumours of the face, trunk, and limbs. He regards the face and body tumours as tricho-epithelioma (epithelioma adenoides cysticum), but thinks the scalp tumours are of sweat-gland origin. The present writer agrees with Dubreuilh that, although the microscopical appearances of the scalp tumours somewhat suggest a sweat-gland origin, it can be demonstrated that they are really tricho-epitheliomata.

CASE 3.—Another son has recently developed nodules on the scalp, but at present none on the face.

CASE 4.—Another member of this family, a girl, aged 10, has one pin-sized nodule in the left naso-labial furrow, and one on the forehead. These are raised and have a pearly look. With a lens several smaller nodules can be seen on the cheeks and the sides of the nose.

The mother of this family states that she has eight children living, and three of these are affected thus:—*Unaffected*: girl, aged 4 years; four boys, 7, 9, 14, and 16 years; girl, 11 years, a few; two boys, 19 and 21, both affected. The mother's mother and one of her own aunts were also subjects of the disease. It is noteworthy that in most of the published cases mother and daughter have been affected, and seldom the male side.

It is interesting to compare the distribution of the lesions in the case of the mother and of the son with a diagrammatic record of the distribution of 220 cases of rodent ulcer which has been kept by Dr. J. H. Sequeira, and which was published in the Transactions of the Royal Society of Medicine for 1913. It will be readily seen how strikingly they agree. (Fig. 3.)

But it is not only in their appearance and in their distribution that these tumours resemble rodent ulcer; their histological characters are closely similar, so that a section of one of these growths might be pardonably mistaken for one of rodent ulcer. The accompanying drawings from sections of growths in these two cases show that they are made up of oval cells derived from the epidermis. (Figs. 4, 5, 6, and 7.) In the case of one section (from Case 1) there is a strong suggestion of origin from the pilo-sebaceous follicle. (Fig. 4.) These cells, which so closely resemble the cells of rodent ulcer, are arranged in lobules with a marginal palisade layer, and cystic formations similar to those seen in rodents are present here and there. There is no ulceration, and the plasma-cell infiltration is replaced by a fibrous tissue barrier, but otherwise the resemblance is striking.

Before the completion of the study of these cases another patient came under my observation with a condition which seems to show in a still more conclusive manner the relationship between rodent ulcer and benign tricho-epithelioma.

CASE 5.—*Non-ulcerated tumour of the lower eyelid (tricho-epithelioma) present since birth, associated with rodent ulcer of the nasolabial-fold which appeared in middle age.*—The patient, a male aged 37, had two growths, one on the left lower eyelid and one on the left naso-labial furrow. The growth in the lower eyelid was a raised, flat, oval, disc-like nodules ¼ inch in its longer diameter, firm, semi-translucent, and rather redder than the normal skin. It was not ulcerated or crusted. It had been present since childhood—as long as the patient could remember. The growth at the side of the nose was somewhat larger, ulcerated, and with the raised quantity and the other, possibly his own brother, a plus quantity. I may be told that it is a question of their respective constitutions. No doubt it is, but that again is meaningless unless we are prepared to explain what constitutes a constitution.

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[3] Epithéliomes Bénins Multiples du Cuir Chevelu—Dubreuilh and Auché, Annales de Dermatologie et de Syphiligraphie, 1902, p. 545.

Well, I am going to be bold enough to venture upon such an explanation. The constitution of any given person depends upon the accuracy of his metabolic changes. By accuracy I mean the proper coordination of his intake, his assimilation, and his output. If at the outset he is well endowed with coördinative power, if, as the French say, he is originally well "equilibriumed," then his constitution is good. If, however, there be a piece which does not quite fit the dovetail, whether it be too large or too small, a thought too narrow, or a trace too wide, the other members are strained; and though in favouring conditions the machine may appear to work smoothly enough, the weakness becomes painfully apparent in times of stress. Of these three, intake, assimilation, and output, in the early years, when the constitution is being stereotyped as it were, the assimilation is by far the most important. In later life the importance of this element wanes, and it is the output which becomes paramount. Adequate anabolism in infancy and childhood, energetic katabolism in adult life and advancing years, such are the bulwarks of the constitution.

Time was, and not so very long ago, when our knowledge of matters metabolic was very rudimentary. Tissue change was regarded partly as a nervous phenomenon, but mainly as a dietetic drama, in which a harmless enough creature called uric acid very successfully posed as the villain. To-day we know more, but there is much knowledge still to seek. We know that metabolism is under the direct control of the internal secretory glands. We know that these glands preside over growth and development in infancy and childhood, that they are essential to mental, physical, and reproductive efficiency in adult life, and that they are responsible for the maintenance of katabolic balance in the period of decline. It is therefore no exaggeration to define the constitution of an individual as the resultant of his internal secretions. The greater includes the less, and if this be true of the body as a whole it is conspicuously so of the blood-vessels. The internal secretions, the hormones, are poured straight into the vital fluid which traverses the arteries, nourishing and, peradventure, irritating them in its passage. The quality of this fluid, its constitution, must depend to an incalculable extent upon the tribute which it receives from the ductless glands. And this dependence is not only direct but indirect; for if, owing to a faulty gland, the general metabolism be faulty, the stream contains elements which it ought not to contain, and the conduits become injured thereby.

This, then, is the answer to my self-imposed question as to how it is that in some people the arteries readily degenerate, and in others similarly circumstanced they do so reluctantly, if at all. If the equilibrium of the glands is good, the metabolism is good, the powers of resistance are good, and toxins are brought to naught. The toxins may gather in numbers innumerable to hurl themselves with frantic fervour against the walls of the citadel, but they will do so in vain so long as the glandular defenders work in unison. If the equilibrium of the glands be impaired the metabolism is impaired, the combative power is lowered, and microbes flourish exceedingly; the blood is no longer antiseptic; it has become a circulating bouillon or a stagnating agar-agar in which bacillus and coccus and spirochæte gambol together in the impious harmony of a multiple infection.

This question of the metabolic importance of the ductless glands has a further and a very special application to the question of at any rate two of the recognised forms of arterial degeneration—namely, those which are characterised by a deposit of lime salts. Four of the ductless glands, the ovary, the adrenal, the thymus and the thyroid, are very actively engaged in the metabolism of calcium. It has long been known that osteomalacia was curable by removing the ovaries, showing that the ovaries are vigorously engaged in the excretion of the calcium salts. It now appears that a means equally effective, though less dramatic, of controlling this loss is open to us by the exhibition of suprarenal extract. This shows that the suprarenals cause retention of the calcium salts, and normally antagonise the ovarian activity in this direction. It is believed on good evidence that the main excuse for the existence of the thymus is that it causes retention of the calcium salts while the bony skeleton is being developed. The part played by the thyroid in this matter is rather enigmatic. In the first place there is the well-known fact that a great loss of calcium occurs in Graves's disease; in the second, there is ample evidence to show that the thyroid plays a most important part in fixing the calcium salts in the body during the growing period; and thirdly, there is the fact of the depressed calcium metabolism which is conspicuous not only in myxœdema but in old age. Blair Bell suggests that the calcium salts are differently employed by the organism at three different periods of life. He says: "Until puberty calcium is chiefly employed in building up the skeleton; after this it is used for reproduction; and lastly (and pathologically if the termination of life be pathological), for producing the changes which are associated with senility—namely, the retention of lime salts in the tissues, especially in the arteries." This is an ingenious theory with which in the main I am inclined to agree, though I cannot subscribe to the suggestion that we are meant gradually to be transformed into pillars of chalk, to make our exit crumbling, and grittily to greet the resurrection. That many of us may do so there is, alas, no doubt, but if we are to believe Metchnikoff and his Bulgarian bacilli it is evident that we shall do so through some metabolic fault of our own, and not because the Fates have willed it. The responsibility for that fault I believe to rest with the thyroid gland; not, perhaps, directly, but more probably indirectly, in its capacity of the master gland of the endocrinous system.

For we have to remember that as yet we know very little about the interaction of these internal secretory glands. It is surmised, in all probability correctly, that certain of these glands antagonise certain others, and that some of them reinforce others. Thus when in a given case we administer, say, thyroid extract with success, we cannot be certain that it was thyroid essence that was lacking; it may have been some other gland that was lazy, and our remedy has stimulated it to a resumption of its duties. For the present, however, we are obliged to speak empirically, and assume that if thyroid extract produces the desired result it was inadequacy of the thyroid gland which caused the symptoms. In the present state of our knowledge this practice is pardonable, and even necessary, but it is right that we should from time to time remind ourselves that the practice is but a makeshift. And [illegible] he thyroid than to [illegible] because this gland [illegible] which the *others* revolve. It is the master-key which locks one door and unlocks another, according to the necessities of the moment. That is one of the reasons for its *being so easily exhausted.* The ovaries seem to give it much more trouble than the testicles, for thyroid insufficiency is quite three times as common in woman as it is in man. This may be due to the fact that the testicle appears to be far less active in excreting calcium than the ovary.

That the thyroid presides over, and in a large measure directs, the metabolism of the calcium salts there can be no doubt, but whether it interferes directly through its own secretion, or whether indirectly through the agency of some other gland or glands, it is impossible at present to say. It has been abundantly proved, and anyone may satisfy himself of the fact in any case of rickets, that the thyroid gland is instrumental in fixing the calcium salts in the growing organism. It has not been proved, but I am convinced it is true, that in the case of the adult and declining organism the aid of the thyroid can be invoked to secure the excretion of these salts. I have seen hard and uncompromising tophi completely disappear under the influence of thyroid extract, and I have even persuaded myself that a cord-like radial artery has become more malleable under the same gentle persuasion. By this, however, I must not be understood to be suggesting that calcified arteries can be regenerated or rejuvenated by thyroid extract. Nor am I of those curiously unimaginative people who would seek to rid an aorta of its plaster by exhibiting drugs which in a test-tube can be made to dissolve the salts of lime. When arteries have degenerated their course is run. Even if we could, which we cannot, relieve them of the whole of their burden of lime, it is quite certain that we should do harm rather than good, for a certain amount of calcium in the walls of a worn-out artery is just as surely a preservative element as the calcium in an extinct pulmonary tubercle. The deposit of lime is merely the brand of the degenerative process. It is not the process itself. If there were no calcium wherewith to patch the arterial walls the end would only come more quickly. The degeneration is there; the calcium is only the splint which supports the cripple, without which he would the sooner be undone. The part played by the thyroid would thus seem to be that of a regulator of calcium metabolism. It may promote the retention of the lime salts when these are insufficient, or it may ordain their expulsion when they are present in excess. In order to do this, however, the thyroid must be an effective generalissimo. He may be somnolent, but he must, when roused, be capable of effective interference. Unfortunately, with advancing years this is precisely what he is not. Whether from mere weight of years or from exhaustion in fighting toxins he becomes senile and fails to maintain discipline, with the result that calcium which ought to be excreted is retained and the amount necessary to the preservation of the arterial wall is augmented to the point where the wall is composed mainly, if not entirely, of calcareous matter. Lime has ceased to be a servant; it has become a master. Freed from the control of the exhausted thyroid it becomes a parasite. One day the mortar cracks and breaks, and the tenement falls.

This, then, is what I venture to offer for your consideration. If we would understand the real causes of arterial degeneration we must look deeper than the banal surface causes, such as gout and syphilis, which are not always operative, to the limestone formation which lies beneath. Here we come upon the powers of resistance of the individual, which rest upon his metabolic efficiency. This in its turn is supported and maintained by the vigour and harmony of his ductless glands. When the vigour and harmony of these glands is impaired, by circumstances which may be congenital or acquired, the metabolic efficiency deteriorates and the powers of resistance decline. Toxins now succeed where before they were defeated, and degenerative processes become operative. In the degenerative processes which attack the vascular system the fibrosis and the calcareous deposit are originally conservative measures which proceed to dangerous excess only because of the want of control of the endocrinous glandular system in general, and of its master gland, the thyroid, in particular. Thus in the presence of vascular degeneration we are powerless. When we are appealed to early enough we may do something to defer its arrival, and the degree of that something will depend upon our working knowledge of the physiology and clinical behaviour of the ductless glands. If we can learn to stimulate the efficiency and promote the harmony of these potent metabolisers we may do much. Without such knowledge we are impotent.

But, sooner or later, by one means or another, whether by calcium or fibrosis, or what not, the end must come. Even though a man should live by bread alone, eschew wine, laughter and song, live laborious days and suffer loveless nights, he cannot escape. The moving finger writes, the dreaded spectre waits, and the mourners go about the streets. Such is the conclusion of all degenerations, and the conclusion, most conspicuously, of arterial degeneration. And it brings the conclusion of my contribution—a contribution which has proved nothing, disproved nothing, and suggested little, on a subject of absorbing interest and abiding importance. It reminds me of Omar Khayyám:—

> Myself when young did eagerly frequent
> Doctor and saint and heard great argument
> About it and about, but evermore came out
> By that same door wherein I went.
>
> With them the seeds of wisdom did I sow,
> And with mine own hand laboured it to grow,
> And this was all the harvest that I reaped—
> "You came like water, and like chalk you go."

Harley street, W.

ETIOLOGY OF ENDEMIC CRETINISM, CONGENITAL GOITRE, AND CONGENITAL PARATHYROID DISEASE:

ABSTRACT OF EXPERIMENTAL RESEARCHES.[1]

BY ROBERT MCCARRISON, M.D. R.U.I., M.R.C.P. LOND.,
MAJOR, INDIAN MEDICAL SERVICE, ON DEPUTATION IN CONNEXION WITH THE STUDY OF GOITRE AND CRETINISM IN INDIA.

MY previous researches[2] have led me to believe that the exciting agent or agents of goitre exist in the intestinal tract of sufferers. In the course of experiments, having for their object the identification of such an agent or agents, I have had occasion to feed white rats (1) on the filtrate of an emulsion of goitrous persons' fæces, and (2) on aerobic and on anaerobic cultures of organisms grown from the fæces of goitrous persons. A number of rats were also confined in dirty, unhygienic cages, which were grossly contaminated by their own alvine discharges, with a view to determining the influence of such conditions of life on the development of goitre.

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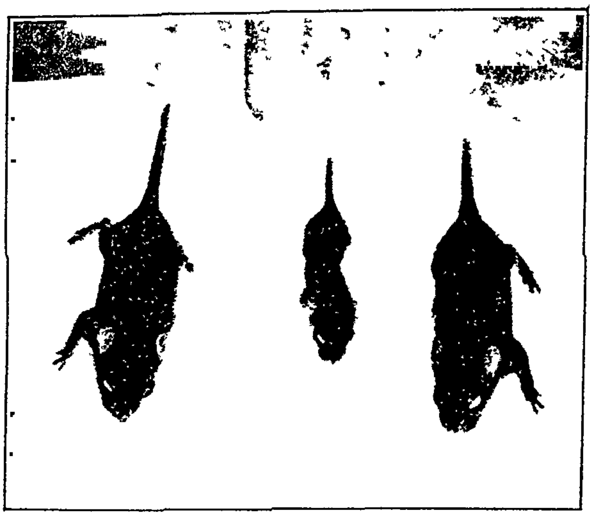
[1] [illegible] ary number.

[2] [illegible] London, B., [illegible] ; 1911-12, B. vol. lxxxiv., pp. 155-56; THE LANCET, 1913, vol. i., pp. 147, 219, 365.

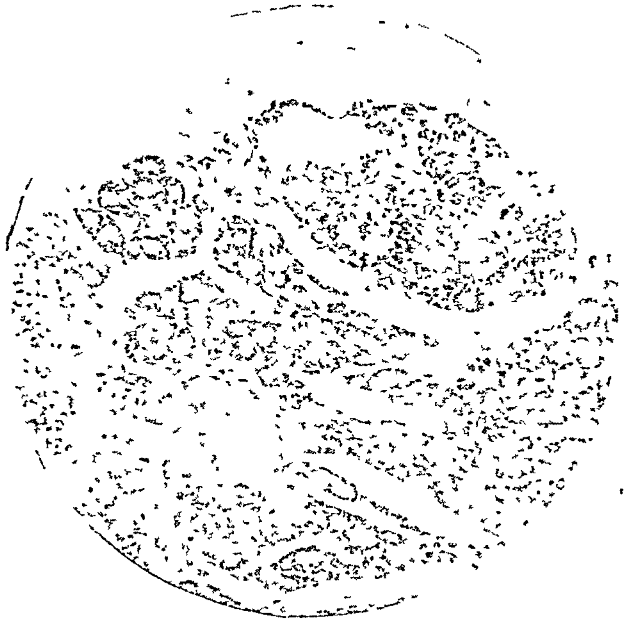
Among the animals treated in these ways were a number of adult females which developed goitre of greater or lesser degrees of intensity. These gave birth during the period of the experiment—March 15th, 1913, to Sept. 15th, 1913—to 146 young. The fathers of these animals were also sufferers from experimentally produced goitre. Of the young rats 63 were removed from the cages for examination. The thyroids of all except 7 were examined one to four days after birth. Of these offspring of goitrous parents 3 were cretins—viz., 4·75 per cent.; 40 had congenital goitre—viz., 63·5 per cent.; 15, out of 47 in which the parathyroids were found, had congenital parathyroid disease—viz., 31·9 per cent.; and 21 were normal—viz., 33·3 per cent.

FIG. 1.



Litter of three young rats, aged 20 days, the offspring of a mother which consumed fæcal filtrate prior to and during pregnancy. The animal in the centre is a cretin.

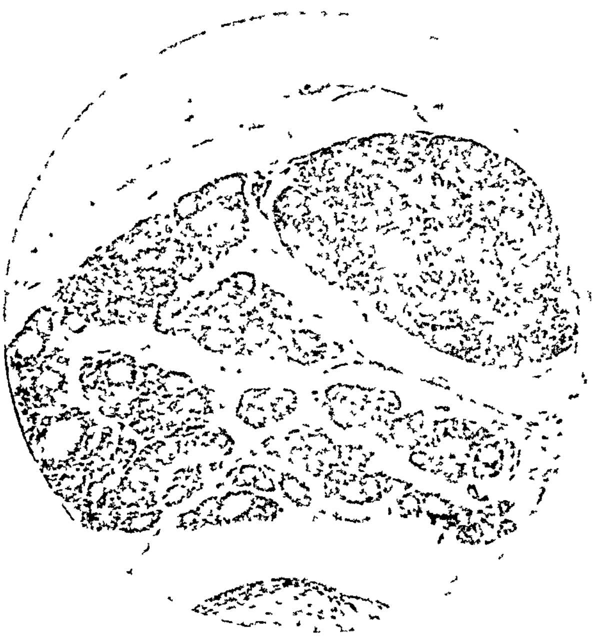
FIG. 3.



Thyroid and parathyroid glands of a 4 day old rat, showing an area of disease in the thyroid and extensive destruction of the parathyroid gland by hæmorrhage into its substance Magnified 180 diameters

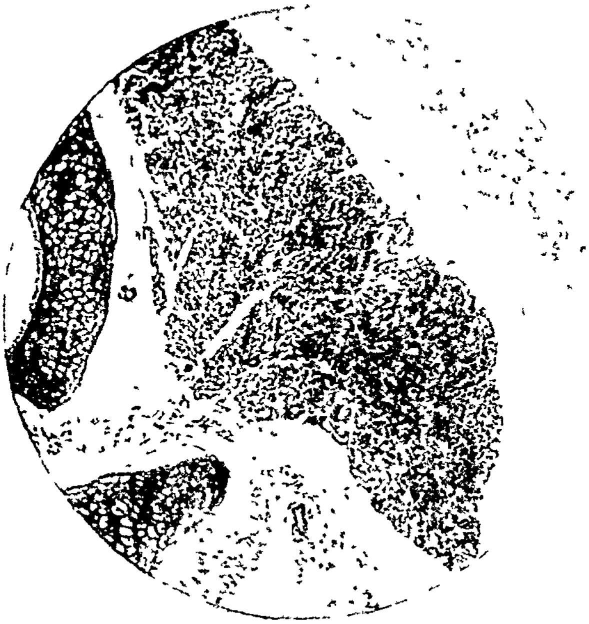
Details of results.—Of 5 animals born in the filthy, unhygienic cages all showed signs of thyroid hyperplasia. The parathyroids were found in all 5 cases, and were not affected by the goitrigenous influences.

FIG. 2.



Normal thyroid and parathyroid glands of a 4 day old rat Magnified 180 diameters

FIG. 4.



Thyroid and parathyroid gland of a 4 day old cretin rat, showing almost complete fibrosis The arrow indicates the situation of the parathyroid gland. Magnified 90 diameters

Of 16 animals, born of a mother which consumed the filtrate of an emulsion of goitrous fæces prior to and during pregnancy, 3 were cretins (Fig. 1), 7 had thyroid hyperplasia—in 2 of these there was also partial fibrosis of the thyroid, and 7 were normal; while 5, or 38 per cent., had congenital parathyroid disease. The thyro-parathyroid apparatus of only one cretin was examined microscopically, as the mother ate the other two. The clinical features of all three were similar (Fig. 1)—namely, stunted growth, curvature of the spine, low weight, and defective powers of motion. The thyroid and parathyroid glands of the cretin which was examined were completely destroyed, the parenchyma cells being almost wholly replaced by fibroblasts (Fig. 4). There is little doubt, therefore, but that the thyro-parathyroid apparatus of the other two cases were similarly affected.

Of 17 animals, born of mothers which consumed aerobic cultures on agar of fæcal micro-organisms, 7 had normal and 10 had markedly hyperplastic thyroid glands. The 10 animals having disease of the thyroid were born of two mothers which consumed fæcal aerobes prior to *and during* pregnancy. The 7 animals having normal thyroids were born of one of these mothers which consumed fæcal aerobes prior to *but not during* pregnancy. The noxious action of the bacterial cultures was thus demonstrated. The parathyroids were found in 11 out of the 17 cases and were normal in all.

Of 25 animals, born of mothers which consumed fæcal anaerobes, 8 had normal or almost normal thyroids, while in 17 the thyroid gland was markedly hyperplastic. The parathyroids were diseased in 10 out of 18 cases in which they were seen, or 55·5 per cent. The parathyroid disease consisted in marked congestion, hæmorrhages into the gland which destroy large portions of its substance, and in fibrotic changes (Figs. 2 and 3).

Three important facts are to be noted in connexion with these results: 1. That out of 16 animals, born of a goitrous mother which consumed fæcal filtrate prior to and during pregnancy, 3 were born cretins, while the 47 animals born in other cages showed no clinical or pathological signs of this condition. 2. That of 31 animals, born of goitrous mothers which consumed either fæcal anaerobes or the filtrate of a fæcal emulsion, 15 were found to have congenital parathyroid disease. Of these, two-thirds were born of mothers consuming the anaerobic cultures, while one-third were born of a mother consuming a fæcal filtrate which contained the toxic products of these anaerobes. The parathyroids were normal in 16 animals born of goitrous mothers in other cages. 3. Fæcal organisms which grow aerobically on agar, while capable of causing marked hyperplasia of the thyroid gland, do not appear to be capable of producing any ill-effect on the parathyroid glands.

Conclusions.—1. Of the offspring of goitrous parents a small percentage are born cretins, approximately 63 per cent. are born with congenital goitre, 32 per cent. are born with congenital parathyroid disease, and 33 per cent. are born with normal thyroid and parathyroid glands. 2. Cretinism and congenital goitre are due to the action of toxic substances derived from the intestines of the goitrous mother on the fœtal thyro-parathyroid mechanism. Cretinism represents the maximum, and comparatively rare, effect of these toxins; congenital goitre their minimum, and comparatively common, effect. Between these extremes all degrees of thyroid involvement may occur with or without associated swelling of the gland.[3] 3. Congenital parathyroid disease is due to the action on the fœtal gland of the toxic products of organisms, present in the intestine of the goitrous mother, which are capable of growth under anaerobic conditions.[3]

Central Research Institute of India, Kasauli, India.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF QUININE POISONING.

BY LEONARD MYER, F.R.C.S. EDIN.

THIS is a brief account of a case of acute poisoning by quinine with a few remarks thereon. It is the more interesting because so recently as Jan. 17th and Jan. 24th there were reports of poisoning by this drug in THE LANCET and also because my patient was intelligent and able to give some definite story of the subjective symptoms after her recovery.

The patient, aged 20, was three days late with her menstrual period. She procured some quinine sulphate from two chemists, which I have ascertained amounted to 2 drachms; she partly dissolved this in lemon juice and water and drank the mixture at 2.30 P.M. A quarter of an hour after she felt "dizzy as if she were drunk." By 3 P.M. she could hear her friends talking, but could not make out what was said and soon after she was quite unconscious. At 5.30 I reached her after an urgent call. I found her comatose, her pulse was 120 and feeble, her respirations were shallow, occasionally sighing and 20 per minute. Her temperature was 98·6° F. She took no notice even when shouted at. There were obvious signs of vomiting, which had included some undissolved quinine; she was lying on her bed fully dressed. Her pupils were widely dilated. Some hot coffee was quickly prepared, but a rectal injection was prevented by the fact that the bowels had been very freely evacuated under her, likewise her bladder, and I was without adequate assistance. I therefore administered 6 minims of liquor strychninæ hypodermically and a quarter of an hour later when I shouted at her she said, "I cannot see and I don't know what you are saying." Her pulse was then much stronger and I left her with instructions to the husband to call me if he was anxious and that in any case I would come again later. I saw her again at 10.30 P.M. She was sleeping and very drowsy. I roused her by shouting. Her pupils were still widely dilated. She was unable to perceive a very strong incandescent gas light in the room, she also complained of "buzzing" in her ears. I afterwards learnt that about this time she felt "flashes of light and sound," that her feet felt cold and that they wanted to move but could not do so. The coldness spread upwards and before it reached her arms, she could move her legs. Eventually, about 6 A.M. the next day, she "could feel the parts getting well," and on being asked by her husband if she could see she stared at the strong light for five minutes before she was able to make anything out and the first thing was the clock by the bedside which "only gradually took shape." It was 24 hours more before she could see well and before the buzzing ceased. She is quite well now, and needless to say her period has not appeared.

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[3] Proceedings of the Royal Society of Medicine (Medical Section), 1908, vol. ii., pp. 1-31; THE LANCET, Oct. 31st, 1908, p. 1275.

The books describe the result of a big dose of quinine and also of chronic poisoning "cinchonism." The only description of a case like mine was of the Orientals in THE LANCET of Jan. 17th (p. 174), and there the subjective symptoms are not related. Nor is any antidote stated or recommended in the books. Had I been called earlier—i.e., before coma had set in and before vomiting had taken place—the treatment would have been 30 grains of ammonium carbonate in water to precipitate the unabsorbed quinine, as an emetic and alternatively as a stimulant. Failing vomiting by this means the stomach tube and bicarbonate of soda would be indicated. In this case vomiting had occurred and it was reasonable to suppose that in the three hours which had elapsed the remainder of the "poison" had been absorbed.

The quinine was taken under the false impression that it was an emmenagogue and in the cases referred to it was taken in large doses by accident.

Cambridge-circus, W.

A CASE OF APPENDICITIS WITH SEVERAL POINTS OF INTEREST.

BY H. F. G. NOYES, M.B., B.C.CANTAB., M.R.C.S.ENG., L.R.C.P. LOND.

ON Jan. 2nd, in answer to a wire, I met at Worthing station the patient, a man, aged 32, on a visit to England from Australia. The history of his illness is as follows. At an afternoon pantomime performance on Dec. 31st he was seized with violent abdominal pain, which necessitated his leaving the theatre and taking a cab to a hotel. He was seen soon after by a medical man, who gave him a hypodermic injection of morphia. His temperature was 101·4° F., and pulse 104. Later in the evening he vomited. On the next day his temperature had dropped to normal and his pulse was 76. An ounce of castor oil was given, and his bowels were moved several times. The medical attendant was not satisfied with the patient's condition, and on the morning of Jan. 2nd called a surgeon in consultation. An acute perforated appendix was diagnosed and immediate operation was ordered. This the patient refused, and insisted on travelling by the first train to Worthing. A nurse was sent with him to administer brandy should the pulse become weak on the journey.

On arrival in Worthing the patient was very collapsed. The pulse was 120 and thready in character. He was conveyed to a nursing home and consented to an immediate operation. The abdomen was as "hard as a board" and acutely tender, especially in the right iliac fossa and hypogastrium. After opening the abdomen the appendix was found to run downwards into the pelvis. It was 6½ inches in length, there was a kink about 1 inch from the cæcum, and the distal end was bulbous, gangrenous, and perforated, the aperture being about the diameter of a lead pencil. The tissues were in a very friable condition, and merely the bare removal of the appendix was attempted. The cavity where the appendix lay was swabbed out, and a large soft drainage-tube left in running down into the pelvis.

The patient stood the operation remarkably well, and as soon as he had come round from the anæsthetic was placed in Fowler's position. During the next three days—i.e., Jan. 3rd, 4th, and 5th—the patient vomited small quantities of bile, and in response to calomel by mouth and turpentine enemata passed a fair quantity of flatus. The pulse varied between 70 and 90, and was fairly full in character. The abdomen became gradually more and more distended in the epigastrium and hypochondria, the liver dulness was displaced upwards, and the "coin-sound" was elicited over an area which corresponded to an enormously dilated stomach. On the fourth day after operation considerably over a quart of fæcal-smelling vomit was brought up. The patient was very collapsed afterwards, and his pulse became thready and about 130, but later in the evening he felt better and was less distended. This fæcal vomiting occurred twice every 24 hours, and continued for eight days. After the vomiting the patient always felt relieved, and the epigastric distension became temporarily less. Meanwhile nourishment was administered by means of nutrient enemata.

I met Mr. W. H. Battle in consultation on Jan. 4th and 9th, and am much indebted to him for valuable advice on the case. He recommended lavage of the stomach. This I did once, but the patient was very collapsed afterwards, and asked that he should be allowed to wash out his own stomach by the natural method of vomiting. He was provided twice daily with a quart of normal saline; this he drank at one draught and ejected immediately afterwards mixed with the fæcal contents of his stomach. By this means the vomit became gradually less offensive and smaller in quantity, until Jan. 14th, when he was unable to return the saline. From this day his condition rapidly improved and he began to take food by the mouth. The abdominal distension quickly disappeared and his recovery was uneventful except for a superficial stitch abscess in the abdominal incision.

Worthing.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Gastro-jejunostomy.

A MEETING of this section was held on March 10th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. HERBERT J. PATERSON read a paper on Gastro-jejunostomy and the Principles which should Determine its Application. He said that during the past 15 years there had been a great improvement in the results of gastro-jejunostomy, both immediate and remote. This improvement had been attributed largely to the adoption of the "short-loop" operation. He suggested the possibility that this improvement was due, not to the particular method employed, but to a general advance in surgical technique. He pointed out that a gastro-jejunostomy opening should be as near to the pylorus as possible. This was anatomically impossible in the posterior "short-loop" operation. Therefore, the posterior "short-loop" operation was unsound physiologically, but anatomically good; the anterior operation was good physiologically, but anatomically bad. He was inclined to think that on the whole the remote results of the anterior operation were rather better than the remote results of the posterior operation. Mr. Paterson pointed out some of the mechanical defects which might prevent the patient gaining complete relief, but insisted that the chief cause of failure after gastro-jejunostomy was its performance without proper indication. He gave in detail the reasons for the views which he had been advocating for years, that gastro-jejunostomy was a physiological and not a drainage operation. It was difficult by any mechanical explanation to explain the beneficial effects of gastro-jejunostomy. How then did it act? He stated that the presence of bile and pancreatic juice in the gastric contents was a constant feature after gastro-jejunostomy. The proof of this was the constant increase in mineral chlorides in the gastric contents after gastro-jejunostomy. This increase was not due to increased activity of the gastric secretion, and so must be due to chlorides added from without—i.e., through the anastomosis, because (1) the total chlorides of the gastric contents were diminished; (2) undoing a gastro-jejunostomy diminished once more the amount of mineral chlorides; (3) if an entero-anastomosis was performed the increase in the mineral chlorides did not occur; (4) in cases in which there was marked excess of bile in the gastric contents there was a marked excess of mineral chlorides; and (5) as a rule the increase in mineral chlorides did not follow operations other than gastro-jejunostomy. Mr. Paterson concluded that the average amount of bile which regurgitated into the stomach was between 5 and 10 per cent. He discussed the effect of the different types of operation in the regurgitation of bile, and concluded that the type of operation performed was of less importance than the manner in which it was performed. The reasons for the beneficial effects of gastro-jejunostomy and the indications for its performance were discussed, and in conclusion the following four practical conclusions were stated: 1. That the type of gastro-jejunostomy employed was of less importance than the manner in which it was performed. 2. That occlusion of the pylorus was an unnecessary complication of gastro-jejunostomy and was based on erroneous pathology. 3. That if gastro-jejunostomy was a physiological operation, its use for the treatment of gastric hæmorrhage was correct and explicable. 4. That if gastro-jejunostomy was a physiological operation, then it was as efficient a treatment for ulcers of the body of the stomach as for ulcers near the pylorus; in other words, gastro-jejunostomy was preferable to excision.

Sir FREDERIC EVE thought that all surgeons would agree that gastro-enterostomy was a physiological operation, and said that he had been in the habit of teaching that the good results which followed it were due to the regurgitation of bile and its neutralisation of the gastric contents. He agreed almost entirely with Mr. Paterson's main conclusions. The stoma should be placed near the pylorus. He had found that cases of duodenal ulcer did as well without as with occlusion of the pylorus. He agreed that excellent results followed gastro-enterostomy for an ulcer in the body of the stomach, and also that excision of the ulcer was unnecessary. Cancerous transformation of the simple ulcer was exceedingly rare.

Dr. A. F. HERTZ said that by the use of X rays he had come to the conclusion that the operation acted almost entirely mechanically. If its effect was merely to render the gastric contents alkaline, could this not be obtained more readily by giving alkalis? A single examination of the contents one hour after a test meal was not sufficient evidence, and should be repeated at frequent intervals. The diminution in the total acidity could be easily explained on the supposition of drainage, as the products of digestion were not retained so long in the stomach, and these products formed the stimulus for the secretion of the gastric juice. He had seen many cases of gastro-enterostomy for gastric ulcer where the patient had not been benefited by it. If the operation was a physiological one, how were its good effects in duodenal ulceration explained, and how were they explained in those cases where entero-anastomosis was performed as well? Gastrostaxis benefited so much by medical means alone and often did so badly after gastro-enterostomy that he thought it was not justifiable for that condition.

Mr. J. F. DOBSON said that 50 per cent. of the cases in which a gastric ulcer had been excised recurred, and recorded two cases in which the recurrence had taken place at the site of the excision and had led to perforation. He thought that the results of excision of an ulcer on the lesser curvature were so bad that the operation should be discontinued. If gastro-enterostomy combined with excision were employed a high mortality was to be expected. The only ulcers suitable for excision were those situated on the anterior wall of the stomach and which were easily accessible.

The PRESIDENT said that the cases in which it could be said most certainly that the operation would be a success were those in which pyloric obstruction was present. This suggested that the mechanical factor was important. He still held that excision of a gastric ulcer was good practice, and his results had been most satisfactory. He thought that during the examination of malignant ulcers one found clear evidence that they were sometimes grafted on simple ulceration. Gastro-enterostomy did not prevent gastric ulcers from forming, and he had experience of cases where fresh ones developed after the operation.

SECTION OF THE HISTORY OF MEDICINE.

Exhibition of Objects of Interest.—Art and Epigram regarding Science and Medicine in Relation to Death.—Healing Wells and Waters, with a Suggestion as to the Origin of the Votive Offering.—Some Physiological Phantasies of Third Century Repute.—A Relic of the King's Evil.

A MEETING of this section was held on March 4th, Sir WILLIAM OSLER, the President, being in the chair.

Dr. Haldin D. Davis and Mr. Harold S. Gettings were elected members.

Mr. WILLIAM BUCKLER and Professor RICHARD CATON exhibited (1) a find of [illegible] Colophon in Asia Minor; and (2 [illegible] d Roman *Surgical Instruments* [illegible] Stewart Milne, of Hartlepool.

Dr. F. PARKES WEBER read a paper upon Art and Epigram regarding Science and Medicine in Relation to Death. He referred to typical epigrams and works of art illustrating the various ways in which the idea of death might be related to medicine and the allied sciences. Many of the objects to which attention was drawn related to sanitation and the past want of hygienic methods, as well as to the prevention of unnecessary death. A considerable portion of the paper dealt with satirical epigrams and poetry, as well as with the caricature in art of the work of physicians and surgeons.

Dr. DAN MCKENZIE read a paper on Healing Wells and Waters, wi [illegible] Origin of the Votive Offering. [illegible] e all other primitive therapeutic [illegible] tation to qualities other than medicinal, although some physical or chemical peculiarity might be the origin of their reputed healing power. Although the classification into mystical, rational, and combined therapeutic methods was the more natural, that into magical, religious, and physical would be used for the sake of convenience. *Magical water cures.*—Magical laving was used for skin and eye diseases, as in the cure of Naaman's leprosy and in many other instances in more modern times. Another variety of this was the transference cure to water. *Religious water cures.*—The term "religious" was used in the [illegible] ism was common in regard to [illegible] was credited with the curing virtues. Well cures of this class were widely distributed in space and time, antedating the rise of the world religions, and continuing into them. Zem-zem, at Mecca, the Asklepian holy wells in Greece and Rome, and the Pool of Bethesda at Jerusalem were instances. The water-spirit was closely associated with the genesis of life in primitive thought. The truth of this statement was evident in the facts that children's diseases, sterility in women, and paralysis were cured at wells, and that there was a large collection of myths and legends having their basis upon some such idea. Probably the idea was linked on to the fact of the life of the fœtus in liquor amnii. "Rag wells" and votive offerings.—A common practice was for the patient to leave a rag of clothing attached to a tree near the well, or to throw a pin into the water. Was this a votive offering? Votive offerings were of two kinds—namely, those suggested by gratitude or with the idea of payment, and those in which no evidence of the gratitude motive could be perceived. Rags and pins at wells were of the latter class, as were representations of diseased parts, &c., left at shrines. This was fundamentally a magical custom, dependent upon the expectation that the deity's protection of the rag, &c., would also extend to the patient during his absence; the custom was an instance of "telepathic" magic and was related to the wearing of charms and amulets. Physical water-cures.—This class contained a small number of more or less rational cures. But first of all, mystical cures were discussed. Of these latter, the most interesting were the shock treatment of disease, especially of insanity and rabies, by water. Among the rational cures might be mentioned the cold and vapour baths practised by the American Indian, by native Australians, and in Russia.

Mr. B. GLANVILL CORNEY read a paper on Some Physiological Phantasies of Third Century Repute. After pointing out that exact anatomical knowledge was a necessary possession before physiological functions could be intelligently studied and discerned, Mr. Corney observed that empirical lore accumulated very slowly, and by chance rather than design. So that centuries might well have elapsed after anatomy began to be practised at Alexandria as a succedaneum to the acquirement of surgical and medical skill before physiology joined hands with it. He therefore claimed justification for describing as phantasies some beliefs in the realm of physiological phenomena enumerated by Pliny, and reiterated in the third century A.D. by Solinus, from whose "excellent and pleasant worke" the "*Polyhistor*, contayning the noble actions of humaine creatures, the secretes and providence of nature," &c., he quoted passages "translated out of Latine into Englishe by Arthur Goldinge, Gent., London, 1587." This book by Solinus was at one time known as "Collectanea Rerum Memorabilium," and was one of the first classics that appeared in print. It was primarily a cosmographical sketch, containing, besides its descriptions of lands and seas, a brief historical outline about the city of Rome, and notices of various peoples, their cults, rites, and customs, together with distinctly marvellous accounts of animals, plants, and minerals. Sentences were copied wholesale from Pliny's Natural History; some also from Pomponius Mela, of whose "De Situ Orbis" Pliny himself made considerable use; and Mr. Corney was inclined to regard Solinus, if he might be judged by this one work which had come down from him, as little more than a literary hack. The passages quoted in the paper bear upon gestation, parturition, and development, and not the least merit of Golding's translation is its extraordinary accuracy in spite of the quaintness of his language and the solemn air of truth with which he invests the most extravagant absurdities. In the remarks read, Solinus touches on the age limit of fecundity, both in man and woman, and cites the cases of Masinissa and Cato, who became fathers when "ful fourscore yeare old." He mentions cases of twins conceived separately, "who béeing carryed both in one burthen, had notwithstanding lyke distaunce of time betwéene their birthes, as there was distaunce betwéene heir begetting"; and refers to some of the signs and sufferings of pregnancy and phases in fœtal development, and the different comportment of the sexes in utero. "It is against nature for the byrthe to come foorth with his féete forward," says Solinus; "and, therefore, as Children hardly borne, they are called in Latine *Agrippa*," and "are for the moste parte unfortunate and short lived." After alluding to "Cornelia the mother of the Gracchuses," as Golding calls them, as an example of imperforate hymen, Solinus adventures the popular interpretation of the name "Cæsar," "because he was the firste of the Romaines that was ript out of his mother's wombe"; and explains that the name "Vopiscus" is applied to the survivor of twins, one of whom has perished through being born prematurely. After alluding to some vagaries of dentition, he observes that Zoroaster was the only man who ever "laughed the same howre he was borne"—which brought him excellent luck—and that Heraclitus and Diogenes the cynic, "did never abate one whittle of theyre stiffe stomackes, but treading under foote the fformes of all casualties, continued unchangeable in one purpose, againste all gréefes and miseries." Quoting one or two more negative peculiarities, such as Antonia's (the wife of Drusis) who "didde never spitte," and Pomponius, the poet who "did never rasp," Solinus goes on to mention prodigies of strength and strange abnormalities of muscular and bony development, concluding with the audacious story about Milo, of Croton, who "with the stroke of his bare fist, felled an Oxe starke dead, and eate him upp himselfe alone the same day that he killed him, without overcharging his stomacke." The first printed edition of the *Polyhistor* emanated from the Jansen press at Venice, in 1473. The latest edition of his text, and undoubtedly the best, is Mommsen's, published in 1864. His principal commentator before Mommsen was the Abbé Claude, of Salmaise, who devoted a thick folio in mediæval Latin to his *Exercitationes* on Solinus, which was printed at Paris in 1629. Several translations of the *Polyhistor* have been published besides Golding's: one in Italian, one or more in German, and one in French. Of these the last mentioned (in 1847) is the least trustworthy. The paper was accompanied by copious explanatory notes and a short bibliographic list of references.

Dr. FIELDING H. GARRISON contributed an account of a Relic of the King's Evil, acquired in 1891 by the Surgeon-General's Library at Washington, U.S.A. It consisted of a folio volume of 22 leaves in which were inserted: (1) a gold "touch piece" of James II.: (2) inventories of moneys disbursed for healing medals; (3) registries of the number of persons touched for the "evil" during the reigns of Charles I., Charles II., and Queen Anne; (4) a reprint of the 1789 pamphlet on "The Ceremonies for the Healing"; (5) the title page of Wiseman's Treatise on the King's Evil (1686) with a portion of the text; (6) "The office of consecrating Cramp Rings, 1694"; and (7) copies of the *London Gazette* for 1705 containing notices relative to the Royal Touch.—Dr. RAYMOND CRAWFURD noted that the volume was interesting because it showed that the compiler knew of the existence of a bronze touch piece of Charles I., for the first public announcement of which in the *Numismatic Chronicle*, 1910, they were indebted to Mr. Henry Symonds. —Mr. D'ARCY POWER added a few additional facts.

CLINICAL SECTION.

Exhibition of Clinical Cases.

A MEETING of this section was held on March 13th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Mr. HENRY CURTIS showed a case of Primary Squamous Epithelioma of the Exterior of the Left Nostril illustrating the Radical Modern Operation. The patient was a man aged 43. A very large skin flap had been turned up, which allowed removal *en masse* of the glands which were extensively involved.

Dr. HILDRED B. CARLILL showed a case of Spastic Smile with Spasm of the Upper Extremity; (?) Huntington's Chorea. The patient was a woman aged 52. At the age of 16, after extraction of two teeth, the lower jaw "came forward" and speech became indistinct. This had remained. Thirteen years ago, three days after confinement, the right arm commenced to shake. Two years ago the patient was first noticed to be always smiling. She was one of five sisters and had no brothers. The family history was negative as regarded a similar complaint or any nervous disease. The smiling facies was worse under observation and on trying to protrude the tongue. The spasm was controlled at times and ceased during sleep. The tongue was large and constantly moving, but could not be protruded normally. Articulation was very imperfect. Swallowing was normal. The optic discs, fundi, and pupils were unaffected, and the cranial nerves were otherwise normal. Motor system: Gait slow and hesitating; no weakness or ataxia of the lower-limbs or of the left upper limb; involuntary contraction of the muscles of the right upper extremity caused a coarse tremor. She had not used her right hand in writing for 13 years, but could perform many movements requiring less accuracy. No mental impairment was present. The sensory system was normal. Reflexes: Arm-jerks exaggerated, the right being greater than the left; knee-jerks exaggerated; ankle-jerks normal; plantar responses flexor; abdominal reflexes not elicited; sphincters normal.

Mr. J. E. H. ROBERTS showed a case of Old-standing Brachial Birth Paralysis with Subluxation of the Shoulder-joint and Anterior Dislocation of the Head of the Radius. It was that of a male patient, aged 17. When he was three days old the right arm was noticed to be paralysed. There was a subspinous dislocation of the head of the humerus and a forward dislocation of the head of the radius. The muscles of the shoulder and upper arm were well developed. The forearm flexors were fairly powerful but the extensors were weak. In the hand the finger-joints were flexed and the metacarpophalangeal joints hyperextended. The thumb was flexed across the palm. The lower part of the forearm and hand was blue and cold. The arm could not be abducted from the side, although the deltoid had recovered. Passive flexion and extension of the elbow were possible through almost the full normal range, but on attempting active movement the biceps, triceps, and forearm flexors all contracted together, so that no movement occurred. Electrical reactions of the shoulder, arm, and anterior forearm muscles were normal. Those of the posterior forearm were very weak but normal. The same was true of the median interossei. The ulnar interossei showed partial reaction of degeneration.

Dr. F. SYLVAN showed a case of Pulmonary Tuberculosis, commencing gymnastic treatment. The patient was a man aged 27. During several months he did not feel well, and in July, 1913, his lungs were declared to be affected. In September he went to a sanatorium and stayed 10 weeks. He then started work, but the next day he had a hæmorrhage and ceased work. A few days later slight hæmorrhage occurred again on two occasions. At the beginning of his stay in the sanatorium his temperature was frequently 100·2° F., but after six weeks it was normal. He now coughed most in the morning and expectorated a fair amount. There were slight dulness on percussion and crepitations over both apices. His vital capacity was 2700 c.c.; inspiratory power, 28 mm. Hg.

Dr. HECTOR W. G. MACKENZIE showed a case of Multiple Carcinomata of Bone. The patient was a married woman aged 45. For nine years she had suffered from "kidney trouble." There had been blood in the urine from time to time and intermittent pain in the right loin. Her medical attendant, suspecting stone in the kidney, sent her to a hospital, where she was admitted. Dr. Mackenzie had been asked to see her on account of swelling and stiffness of both shoulders, and she was then transferred to his care in February last. She began to suffer pain in the right shoulder in March, 1913. The pain gradually got worse and prevented movement in July, 1913. She was uncertain when the left shoulder became affected, but she thought it became so soon after the right. The right elbow also became painful and stiff. The shoulders gradually became swollen and the arms and hands became weak. On examination both shoulders were very prominent in front. The posterior deltoid regions on both sides were swollen, tense, and very tender. No movement could be obtained. There was pulsation over the swellings, which was expansile in character. On the right side the swelling appeared to be most pronounced over the upper end of the humerus. On the left side the swelling was greatest posteriorly in the situation of the scapula. There were stiffness and tenderness at the right elbow-joint. There was much wasting of the muscles of the right arm and forearm, and the only movements possible were those of pronation and supination and the hand movements. On the left side wasting was not so obvious and the elbow could be flexed and extended. A systolic murmur was audible over the swelling on both sides. Loss of flesh had not been observed by the patient until recently. Her face was of a yellowish tint, and there was a pink flush on her cheeks. The spleen was palpable below the costal margin, and the edge of the liver could be felt 2 inches below the costal margin. An X ray examination by Dr. A. Reid showed that the upper part of the right humerus was [illegible]

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seat of some nodules of growth. Nothing abnormal was to be seen in the kidney area. The urine was tested for Bence Jones protein with negative results. Blood examination: The erythrocytes numbered 4,281,250 per cubic millimetre, and the leucocytes 9280. The hæmoglobin was 85 per cent. of normal, and the colour index was 1. The differential count of leucocytes was as follows: polymorphonuclear neutrophiles, 46 per cent.; polymorphonuclear eosinophiles, 2·3 per cent.; small lymphocytes, 44·7 per cent.; large lymphocytes, 4·3 per cent.; and large hyaline cells, 2·7 per cent. The distribution of the bone tumours pointed to their being secondary deposits. The most likely seat of the primary disease was the right kidney. If the latter was the seat of growth it must have supervened on an old lesion, probably renal calculus.

Mr. H. W. CARSON showed a case of Malignant Disease of the Male Breast. The patient was a man, aged 65, who had had a growth in the right breast for between seven and eight years, and believed that it followed an injury ten years ago. His work did not cause traumatism to the breast. The condition was one of slow growing scirrhus, forming a tumour centrally placed in the tissue of the right mammary gland, implicating the skin and adherent to the sheath of the pectoralis major. Enlarged glands could be felt in the axilla and posterior triangle of the neck and there was a doubtful nodule in the liver. The case was shown as an example of a somewhat rare condition, but Mr. Carson feared it was inoperable.

Mr. E. M. CORNER showed a case of Fractured Spine of the Tibia. The patient was a young man who early in last December had had his leg hurt while playing football. A heavy man fell on the outer side of the knee of the extended limb. Shortly after the accident the knee became swollen and there was considerable extra-articular swelling of the joint. Abduction of the knee was easy and the tibia could be separated by half an inch from the femur. Flexion of the joint was impossible. On examination all movements of the joint were fair, but flexion was much restricted and painful. The signs and symptoms were such that two surgeons thought that there could be no serious injury in the joint. A skiagram showed separation of the spine of the tibia.

Mr. V. ZACHARY COPE showed a case of Extradural Hæmorrhage causing Slight Aphasia from Pressure over Broca's Convolution. The patient, a man, aged 29, was struck over the left temple in August, 1913. He was unconscious for a time, and had not regained full consciousness when admitted to hospital next day. On admission his pulse was 50 and his respirations 20; he was drowsy, but could be roused. The knee-jerks were slightly exaggerated, and the pupils were equal and reacted normally. There were slight swelling and bruising over the site of injury. In the absence of localising symptoms no operation was considered advisable For some days the condition improved, so that he could answer questions sensibly, but it was noticeable that after giving a sensible answer his speech would tail off into a jumble of disconnected nonsense. Nine days after admission his right pupil became larger than the left and early optic neuritis was found. The pulse still remained 50 to the minute. Operation was undertaken ten days later. The skull was trephined over the anterior branch of the left middle meningeal artery. An ounce or more of old blood-clot was found outside the dura, extending down to the skull base, and two depressed pieces of bone were removed. The dura was not opened. No drainage was employed. Recovery was very rapid after the operation. The speech was soon quite perfect and the pulse normal. He was discharged from hospital just over a fortnight after the operation.

Mr. COPE also showed a girl, aged 14, who had suffered from Sensory Aphasia following an injury, and had recovered after removal of a clot from beneath the dura over the angular gyrus and upper part of the temporo-sphenoidal lobe.

Mr. W. H. BATTLE showed a case of Old-standing Fracture-dislocation of the Cervical Spine. The man, aged 38, was admitted in February, 1914. About four months before admission he fell off his van on to his head, the wheel of the van passing over his left leg. He stayed in bed for two days after the accident, but did not notice anything amiss till about a week later, when he discovered that he was losing power in his hands, and that he often could not extend his fingers after clenching his fist without the help of the other hand. For about one month before admission the patient observed that his legs were gradually becoming weaker, and that he had considerable difficulty in walking. He had had no pain of any description, and there had been no difficulty in controlling the sphincters. He had noticed that his head had become more and more protruded since the accident. When shown his mental condition was normal. The right pupil was larger than the left. X rays showed dislocation of the fifth and sixth cervical vertebræ. Slight general weakness and some spasticity of the muscles of the trunk were present. The tone of the legs was much increased, and the spasticity was out of all proportion to the weakness. There was incomplete loss of appreciation of a pin-prick over the eighth cervical segment, with complete loss below it.

Mr. T. H. KELLOCK showed a case of Deformity of the Long Bones (Osteogenesis Imperfecta). The patient was a boy, aged 4, who had been sent to hospital on account of lameness and bending of the right thigh. He was one of twins, there being nine other children, all healthy, except a sister who had been in splints for knock-knee. The mother and father were both alive and healthy. The children were born at full term; they were breast-fed for three months, subsequently artificially. The twin sister was quite well and had no deformity of bones. For three years the child seemed quite well and walked well. A year ago he fell down stairs and "bent" his right leg above the knee; pain and swelling of the part resulted, but he was able to walk for a few days after the accident. Three months afterwards it was put on a splint, which had been used ever since—for about seven months. The child now had the appearance of suffering from rickety deformities of the bones, the skull was large and the frontal eminences were prominent; the chest was flattened from side to side, and there was well-marked "rickety rosary." Both femora, the right especially, showed antero-posterior curvatures at the junction of middle and lower thirds. The tibiæ were flattened from side to side and curved forwards towards the lower ends. Thickening could be seen and felt at most of the epiphyseal junctions. Skiagrams showed marked attenuation of the long bones and the bones of the tarsus; there was very little compact tissue, and the medullary tissue was almost "spider-web"-like in appearance. There was no obvious fracture at the seat of the bending in the right femur. The child's general condition was good and he had good teeth.

Dr. R. O. MOON showed a case of Aneurysm of the Ascending Aorta. The patient's family history was unimportant. There was no history of any rheumatic affection. A miscarriage occurred at the age of 25. About seven years ago she realised that her heart was diseased in some way; she suffered from palpitation, shortness of breath, choking sensations, and occasional pains in the left mid-axillary line. About ten months ago she noticed a swelling in the upper part of the chest, with throbbing sensations and pain over it. There was a bulging of the three upper right ribs at their sternal ends, extending for 9 cm. from the mid-line. Over the swelling there was a well-marked systolic thrill and there were harsh systolic and diastolic murmurs. The apex beat was diffuse in the seventh space and displaced outwards. To-and-fro murmurs were heard all over the præcordial area. The pulses were equal, markedly collapsing, and their rate 100. The blood pressure was equal to 172 mm. Hg. The pupils were equal, and there was neither dysphagia nor tracheal tugging. The Wassermann reaction was positive.

Mr. P. P. COLE showed a specimen from a case of Tumour of the Thigh. The sections exhibited concerned a case of tumour of the thigh which was shown at the November meeting of this section. The tumour developed after a fracture of the femur, but the history suggested that an endosteal tumour was present before fracture occurred. It was suggested that radium might be tried with advantage. Accordingly, 200 mg. were embedded in the tumour and allowed to remain for 24 hours. The constitutional effect was considerable, and the patient's general condition was seriously impaired. Radium was applied externally during the course of two months. A sinus persisted at the site of introduction, and the tumour became slowly but steadily larger. The patient was reluctant to lose his leg, but eventually consented. Amputation through the hip-joint was performed in January last. Spinal anæsthesia was used to guard against shock, and because the patient was the subject of marked aortic regurgitation. The type of operation was an anterior racquet, only just sufficient of the thigh being left to furnish flaps. There was no shock, and recovery had been uninterrupted. The sections were of the tumour itself and of an enlarged gland removed from the inguinal region, and showed microscopically the structure of a myxochondroma.

Mr. COPE contributed a short paper on Traumatic Sensory Aphasia.

SECTIONS OF NEUROLOGY, OPHTHALMOLOGY, AND OTOLOGY.

Resumed Discussion on Nystagmus.[1]

THE third combined meeting of these sections was held on March 11th to conclude the debate on Nystagmus. The chair was occupied by Mr. RICHARD LAKE, the President of the Section of Otology.

Dr. WILFRED HARRIS said that nystagmus should not be assumed to exist unless the lateral movements were persistent and rhythmical during the test; the observer should also determine whether the nystagmus was a symptom of cerebro-spinal disease or was of ocular origin. Cases which did not belong to either of these groups, such as head-nodding, should also be recognised, and in the last-named form usually only one eye was affected. If in early infancy macular development was interfered with, such as by anterior polar cataract, so that there was not a clear image on the fovea, the cerebral coördination was not brought into play to keep the eye rigid; hence there were constant oscillatory movements. Ocular nystagmus might be said to be due to disease of the afferent path concerned with the reflex for fixation of the eyeballs. Occasionally in adults nystagmus might be due to defect of vision, and it might be uniocular. In nystagmus of central origin the symptom was brought out, especially on deviation of the eyes laterally or upwards, and was not apparent on fixation in the median line. Most intense nystagmus was occasionally set up by a tumour of the cerebrum, especially if the optic thalamus were involved by it. He mentioned cases of this, and recalled that Gowers made the same observation. The value of nystagmus for cerebral localisation was not great, but it was usually suggestive of cerebellar disease. The most intense nystagmus might be an accompaniment of subtentorial disease.

Dr. A. ABRAHAMS explained the *modus operandi* followed by him in obtaining kinematographic records of nystagmoid movements. He said the human eye was a very capable micrometer and was capable of appreciating a movement which the camera did not reveal. Some of the movements photographed were less than one-tenth of a millimetre, and pictures were taken at the rate of 25 to 30 per second. Miners' nystagmus was too fine to photograph.

Mr. J. F. O'MALLEY dealt with two great types of nystagmus, ocular and vestibular; and exhibited tables of useful subclassifications, with suggestions as to etiology.

Mr. HAROLD B. GRIMSDALE spoke of his experiences with cases at the Royal Normal College for the Blind. Half the cases of nystagmus there had had ophthalmia neonatorum; and there were a large number of cases in which the nystagmus followed an accident to the cornea. Up to the age of 5 any severe disturbance of the cornea seemed to be followed by nystagmus. But the blind principal, who lost his sight at the age of 4 following measles, showed no nystagmus. It was said that nystagmus never occurred in blind children, but he quoted a case to the contrary; the patient, a child, later recovered a fair degree of vision, and the presence of the nystagmus led him to hope that that might be so.

Mr. A. B. CRIDLAND dealt with the question of the restriction of the fields of vision for red, blue, and white in subjects of miners' nystagmus; this could be observed in the early stage and the improving stage of the condition. He possessed some 70 charts to illustrate the fact that in practically all cases contraction existed for red, blue, and white, but it was of the concentric type, and more or less symmetrical in shape. Occasionally there was an interlacing of the three fields. The restriction might persist even months after both subjective and objective signs had disappeared. Most of the cases showed blepharospasm, neck twitching, &c. The changes in the fields were akin to those seen in functional disease, and that lent support to the view that miners' nystagmus was a nervous condition.

Mr. ANGUS MACNAB spoke of the relative importance of the rods and cones in different degrees of illumination. With light reduction the rods became the more important until the threshold of stimulation of the cones was passed. In the macula there were only cones, no rods, and after an eye had been subjected to low illumination, it gradually became adapted to its environment, and passed into a condition of dark adaptation. Miners' nystagmus was noticed to be most prevalent where the coal was most absorbent of the little light there was; and the fixation of the subjects was in a state of very unstable equilibrium. The concentration of the miner on his blows also helped, in these circumstances, to produce the neurosis. He thought the influence of refractive error in the causation of nystagmus must be very small, though errors of muscle balance might have some weight. It would be interesting to ascertain what proportion of affected miners suffered from heterophoria.

Mr. T. B. LAYTON said there were great differences of opinion as to the value of vestibular nerve tests, including nystagmus, in the diagnosis of nerve diseases. He raised the question as to how much of failure to perform correctly coördinate muscle movements was due to withdrawal of cerebral control, and how much to defect of the vestibular nerve. He was convinced that in a certain number of cases vestibular reactions when correlated with evidence obtained from other sources would enable one to clinch a diagnosis, or detect a gross lesion which otherwise would seem equivocal. He thought every neurologist should learn to do these tests, or send their patients to otologists who could do so.

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[1] THE LANCET, March 14th, 1914, p. 748.

Dr. A. RUGG GUNN spoke of nystagmus as it affects albinos. In diseases of the retina associ [illegible] rods there was the converse [illegible] An eye in that condition lookin [illegible] found the red end shorten and [illegible] portion appeared to move towards the violet end. It occurred to him that if in the albino the cones were found to be functionless, this absence of function in the fixation point was a sufficient cause for the nystagmus, and also, perhaps, for the intense photophobia found. Such a person would be dark-adapted. He described the case of an albino, one of nine observed, in which this was so.

Mr. G. J. JENKINS spoke of labyrinthine nystagmus in its relation to various canals, and Mr. PARSONS asked whether the albino described by Dr. Gunn was colour-blind, because totally colour-blind people showed the characteristics described.

Mr. W. T. HOLMES SPICER, Dr. JAMES TAYLOR, and Mr. SYDNEY SCOTT replied, and the PRESIDENT suggested that perhaps a committee of representatives of the three sections might present definite conclusions from the various points of view.

SECTION OF PSYCHIATRY.

Definition of the Sexual Instinct.

ON March 10th members of the British Psychological Society were guests of this section. The chair was occupied by Sir GEORGE SAVAGE, the President.

Dr. WILLIAM MCDOUGALL read a paper on the Definition of the Sexual Instinct. He was of opinion that the present attitude of both academic and medical psychologists on the nature and rôle of instinct in general, and in particular the instinct of sex, was chaotic; and it was only by coöperation of medical with other psychologists that a right understanding of sex instinct could be hoped for. The great authorities, whose names were familiar to all who were read in the literature, were far from agreed on the matter, while the hesitation shown in accepting hypotheses seemed to argue a lack of understanding of the leading facts. Those who turned to the standard works on psychology for an authoritative statement on the part played by the sex instinct in human life were disappointed. Even William James, who fully recognised the value of human instincts, scarcely touched on that of sex. There was a perpetuation of the error that instinctive action was merely compound reflex action. The erroneous views could be classified into two groups: (1) those which were unduly simple, representing the sex instinct as merely the tendency to respond to certain disagreeable sense-stimuli with movements which abolished the disagreeable and procured pleasurable sensations; and (2) those which ascribed to the sex instinct a variety of mental and bodily processes which originated in other and distinct roots. A prevalent error was to confound the parental with the sex instinct, and this he considered was largely due to the ambiguous employment of the term "love," as well as to certain similarities of behaviour prompted by these instincts, and the biological ends served by them. Some authors also—erroneously, as he contended—considered modesty, jealousy, and masochistic and sadistic tendencies to be components of the sex instinct. The Freudian doctrine comprised several errors. Against the view that the sex instinct arose from the desire for pleasurable gratification was the fact that in some cases the instinct continued after complete castration. He strongly disagreed as to Freud's contention that the sex instinct was normally present in infanc [illegible] its earliest beginnings at about the [illegible] gressed steadily to puberty. Thougl [illegible] admittedly complex, it must not be r [illegible] two distinct impulses. Though he criticised some of Freud's contentions, he paid a high tribute to his work in the domain of psychology.

A communication from Dr. C. MERCIER was read, in which he re-stated his beliefs as expressed in his work on "Conduct," and drew an illuminating analogy between human instincts and those manifested by the lower animals.

Dr. A. ERNEST JONES wrote pointing out that Freud carefully distinguished between the numerous physical and mental processes which were preparatory, and those which represented the culmination of gratification; he drew a line of difference between processes "for pleasure," and those "in pleasure," the former not being regarded as necessarily sexual. He criticised Dr. McDougall's statement that the grounds of the assumption that the sex instinct was normally active from the earliest years of infancy would not bear examination. He instanced early masturbation, and saw no reason why a line should be drawn and the statement made that before a certain age acts were not sexual, but they were afterwards. The sexual, like all other functions, pursued a tortuous development until adult life. And he saw no necessity to differentiate between the parental and the sex instincts.

Professor W. BROWN pointed out that Freud's ideas were based, not on *a priori* considerations, but on careful psycho-analysis. At first one felt somewhat repelled by Freud's doctrines, but if, as was necessary, one treated his language metaphorically one saw much more clearly. The study of dreams was also very helpful.

Dr. M. D. EDER also defended Freud, and considered that the parental and the sex instincts were closely allied. It was difficult to know exactly at what age the sex instinct commenced, and those who practised psycho-analysis did not agree about it. He thought Dr. McDougall had in his paper looked only backward, and hence ignored the strong aspirative power in man.

Mr. SHAND pointed out how diverse were the meanings attached to the word "instinct." He thought it might be defined as an inherited disposition, excited innately by certain stimuli and invoking innately, in response, certain specific types of behaviour, and he proceeded to elaborate this thesis by observations on the lower animals.

Dr. D. FORSYTH also spoke and Dr. MCDOUGALL replied.

LIVERPOOL MEDICAL INSTITUTION.

Preliminary Report of the Special Committee on Venereal Diseases.—Ambrose Paré: His Work and Times.

AT the clinical evening of this institution held on March 5th, Dr. E. W. HOPE, the President, in the chair, a large number of cases were shown by the members.

At the request of the PRESIDENT, Professor R. J. M. BUCHANAN read a short Preliminary Report of the Special Committee on Venereal Diseases, detailing the work done by the committee up to date.

Dr. C. RONEY SCHOFIELD read a paper on Ambrose Paré, His Work and Times. He said: The progress of medicine was slow from the time of Hippocrates, born 450 B.C., who was our first physician. His work was the medical authority for the next 1500 years. Theology and Medicine were interwoven inextricably, and every doctor came from the ranks of the Church. Quacks abounded. The leading school of medicine in the fourteenth century was at Montpellier. Barber-surgeons were introduced by the physicians, who, being priests, could not shed blood. They were licensed to bleed and do what was now termed minor surgery. Ambrose Paré appeared in the sixteenth century, born at Laval in Mayenne. His last descendant died at Laval on March 6th, 1852—a maiden lady. After surmounting the difficulties that poverty and lack of influence put in his path Paré became a licensed barber-surgeon. He made his reputation in the wars which at that time France was continually engaged in. He was contemporary with Vesalius and Harvey, but lived 13 years after the death of Vesalius and before Harvey was born. Modesty characterised his writings: "I treated him, God cured him," was his favourite phrase. He was responsible for the [illegible] of treatment of wounds and the successful [illegible] He also introduced [illegible] itted a member of the [illegible] edicated his second volume to Henry III. of France and the first to Lord Herbert of Cherbury, in 1579 and 1575 respectively. His dissertation on the humors explanatory of the then elementary appeared healthy, but had a patch of tuberculous deposit near it, while the left showed only slight hyperæmia. The urine from the latter, however, was of low specific gravity and contained tubercle bacilli, while that from the former was normal. A markedly tuberculous left kidney was removed and the patient did well. A tuberculous condition was sometimes masked by a bacillus coli infection, as in a case referred to. Tuberculin treatment had been very successful in the case of a woman who was found by catheterisation to have only one functioning kidney, and that tuberculous.

WIGAN MEDICAL SOCIETY.—A general meeting of this society was held on Feb. 20th, Dr. John Thomson Shirlaw, the President, being in the chair.—Dr. R. Prosser White opened a discussion on the Control of Syphilis. Dr. White gave as heads of his subject the following: (1) That the profession in this country had shirked its responsibility; (2) that the public was ignorant; (3) that dermatologists had forced the matter into the light of a public inquiry; (4) its prevalence and ravages; (5) it should take precedence of tuberculosis; (6) the methods of dealing with it in other countries; (7) should it be notified, if so, how? and (8) the one way of control. Dr. White did not take these divisions in the order given, but they formed the framework of his paper. He held that it was largely due to the apathy of the profession and the ignorance of the public that they in this country were in such a backward state as regards the recognition and treatment of syphilis, that dermatologists had been keeping the matter in the foreground for years, and that it was largely due to their efforts, here and in other countries, that such progress as could be recorded was made. In Great Britain there were practically no statistics outside the army and navy. They were lamentably behind other nations. The Scandinavians were far ahead of them, syphilis being a notifiable disease in Denmark, Sweden, and Norway. In Russia it had been notifiable for a long time, and supervision was very strict. In their own colonies the matter was being taken up, and Australia was at present legislating on the subject. In New York State all information respecting the persons suffering from the disease was compulsory, save the name and address, and Wassermann and other reactions were made free. The incidence of syphilis was very wide. In Copenhagen 28 per cent. had venereal disease; in Berlin (Erb) 12 per cent. were syphilitic; in Paris (Fournier) 15 per cent.; and in Norway 11 per cent. of all males were suffering from syphilis. Byrom Bramwell stated that 75 per cent. of those who contracted syphilis eventually died from it. It was responsible for 40 per cent. of all cases of insanity (Mott). Possibly with the exception of malaria syphilis was the cause of more deaths than any other disease, taking the world through. In New York, French says, there were 50 000 fresh cases annually, and probably 70,000 in London. Treatment was free in Sweden and Norway, but it was not thorough. In Denmark treatment was compulsory and free, and neglect of treatment was an illegal act, and therefore punishable. In Rome it was treated by dispensaries, State supported. The law in this country left syphilis severely alone. The communication of any other contagious disease could be punished by law; not so syphilis, the most serious of them all. It was almost neglected by the public health and the Poor-law authorities. Dr. White expressed the opinion that notification of some kind ought to be made compulsory, and that the only way to control the disease with any chance of success was that treatment should be free, generous, and, if necessary, compulsory.—The President mentioned that the Wassermann reaction could not be obtained in the early stages, and that the best early test was the microscopical examination of serum from the sores.—Mr. M. G. McElligott mentioned the extraordinary knowledge of syphilis, its origin and treatment, &c., shown by the public as well as the profession in St. Petersburg.—Dr. M. Benson thought one of the reasons why more was not known of the disease in this country was that the treatment was largely in the hands of herbalists, charlatans, and quacks. He was of opinion that both parties contracting or spreading syphilis should be punished and that the disease should be notified.—Dr. T. Campbell stated that the International Medical Congress had put forward two propositions: (1) That syphilis be notified, names of persons suffering not disclosed; and (2) that there be depôts for serum reactions and treatment. He referred to the limitations of "606," and its inability to penetrate to the central nervous system, and said that in London 40,000 cases were seen and treated every year.—Dr. F. E. Wynne said the reason the State did not take the matter up was largely due to Mrs. Grundy. That lady did not believe in facing facts, and the "State regulation of vice" stank in her nostrils.—Dr. J. Blair mentioned the enormous prevalence of syphilis in Southern Russia and the knowledge of the best forms of treatment among the laity, and quoted from the *British Medical Journal* the statement that syphilis was responsible for 33 per cent of pathology and gonorrhœa for 50 per cent. of gynæcology.—A vote of thanks was unanimously passed to Dr. White, who, in replying, referred to many of the points raised during the debate, specially laying stress on the fact that syphilis was very amenable to treatment, which, however, must be thorough and prolonged. The control of tuberculosis was a question of housing, that of syphilis a question of treatment.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on March 13th, the President, Dr. A. K. Chalmers, being in the chair, when a paper was read by Dr. A. S. M. MacGregor, tuberculosis officer of Glasgow, entitled "Studies in the Epidemiology of Phthisis." After pointing out the great difference in various towns in respect of the proportion of notifications to deaths, due apparently to the varying clinical standards, Dr. MacGregor said that it had been the experience in Glasgow that many notifications were of doubtful value, and that for the purpose of testing the accuracy of notifications as well as of getting into touch with practical issues he had endeavoured to follow the cases notified in 1910 during the three succeeding years. Of the 3425 cases notified in 1910 nearly 53 per cent. of the patients had died, though 2 per cent. were certified as having died of a disease other than tuberculosis. 30 per cent. had either left the city or could not be traced. Of the remainder 13·9 per cent. were at home and 2·3 per cent. in institutions. Referring to contacts Dr. MacGregor said that it was regarded as an axiom in anti-tuberculosis work that the members of a family where a case of phthisis had occurred should be subjected to medical scrutiny for the detection of other or early cases in the same household. Records had been kept in Glasgow of the incidence of phthisis in the immediate contacts of cases already under notice. Comparing the number of secondary cases which were found with the number that might be expected from the attack rate of the whole population, there was a difference of only about 1 or 2 per cent., the cases being actually 63 per annum more than might have been expected. These results Dr. MacGregor considered did not indicate that the setting up of elaborate administrative machinery for the examination of contacts would be attended by the discovery of more than a relatively small proportion of the cases which occurred in the course of the year.—Dr. W. G. Willoughby stated that in Eastbourne he received about five times more notifications of cases of phthisis than there were deaths from the disease. He emphasised the importance of following up notified cases.—Dr. R. Veitch Clark considered that inquiries should be made into the mortality rate of those cases which had had only six months' treatment. He was of opinion that better results would follow from more prolonged treatment than was usually given.—Dr. E. W. Hope thought that at least one-half of the value of institutional treatment lay in the isolation and removal of infected persons. He deprecated the putting forward of inflated hopes with respect to the treatment of phthisis—a practice which was not adopted as regards other diseases.—Sir Shirley Murphy hoped that information would be forthcoming as regards the social position of those contacts who were infected, and thought that probably it might then be found that among the lower classes the expected and actual figures would not be very far apart.—Dr. P. Caldwell Smith considered that greater energy should be directed to tuberculous children, when much better results would be obtained.—Mr. E. H. T. Nash said that in Wimbledon he received two notifications to one death. He asserted that it was two months after a case had been diagnosed before the patient could be got into a sanatorium under the National Insurance Act, whereas a Post Office employee was sent to an institution in a week.—Dr. Alfred Greenwood was certain that when tuberculosis dispensaries had really got into working order the results as to the future working capacity would be much more favourable than they were at present.

MANCHESTER MEDICAL SOCIETY.—At a meeting of this society held on March 4th Dr. W. Wilson read a paper on the Relation of Throat and Nose to Some Diseases met with in General Practice. He expressed the opinion that the generally accepted views regarding the function of the erectile tissue of the nose were incorrect. The lining mucosa of the air sinuses, he said, warms and moistens the inspired air providing this mucosa is healthy. The erectile tissue can be removed and no harmful effects will follow. The anterior portion of the middle turbinal is of extreme importance in this respect, as it is full in the line of the inspiratory stream. Nasal suppuration is one of the chief causes of pneumonia, broncho-pneumonia, and flatulent dyspepsia. Influenza, gout, and rheumatism are the commonest causes of throat and nose troubles. Influenza, tonsillitis, acute rheumatism, and some forms of appendicitis are all manifestations of the same infection. The tonsils should be completely enucleated if at all affected in acute or chronic rheumatism. In children the tonsils and any adenoids present should be removed on the first signs of nervous irritability, anæmia, and "growing pains"; this will prevent most of the severe cardiac affections of childhood. "Neuroses" of the upper respiratory tract can usually [illegible] 's should not [illegible] A. Mumford [illegible] Stamina of Children for School Purposes. He began by emphasising the necessity of distinguishing physique, which was really structure, from stamina, which, he said, is the sustained capacity to utilise the structure and put forth mental and physical energy. The problem increases with adolescence as the structure is incomplete and future capabilities are unknown. The various methods adopted in the past are suitable only for estimating the bodily growth and for nutrition. Pignet's factors and Oppenheimer's formulæ were discussed; also factors derived from an examination of the reports of the anthropometric committee of the British Association. The limitation of estimates obtained by medical examination of individual organs was dealt with. Methods of calculating physique were described. Dr. Mumford concluded his paper by a description of the work accomplished at the Manchester Grammar School.

NEW LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at the Western Skin Hospital on March 12th, Dr. David Walsh being in the chair.—The following were among the cases shown:—Dr. Walsh: A case of Recent Deafness being treated by intravenous injections of neosalvarsan. There had been found a positive Wassermann reaction and there were traces of long-healed dermato-syphilides.—Dr. G. N. Meachen: Recurrent Œdema of the Right Cheek without definite cause. As the result of the discussion a further examination of the teeth and antrum would be undertaken.—Dr. Alfred Eddowes: A completely generalised Acute Eczema which appeared to be due entirely to external infection. It began a year ago as a bicycle rash, spread to the groins, then to other folds, and finally burst out all over the entire skin. All the lymphatic glands were swollen, the skin red, swollen, and so irritable as to prevent sleep. A pure culture of staphylococcus albus was found in vesicles on the palm. Recovery was rapidly taking place under mild antiseptics and vaccine injections.—Mr. H. C. Samuel: 1. A case of Spontaneously Ulcerating Nævus in a very young child. After the trial of many dressings it was healing under liquid paraffin covered by gauze containing a very mild solution of perchloride of mercury. 2. A case of Leucodermia affecting the centre of the right eyebrow, the centre of the upper eyelid, the right cheek, temple, and the side of the mouth.—In the discussion that followed Dr. Walsh laid stress on the fact that the child had suffered long and severely from toothache on that side.—Dr. Eddowes recalled a case of leucodermia which supported that contention.

ADMINISTRATION OF THE MENTAL DEFICIENCY ACT.—Sir William Byrne, chairman of the Board of Control under the Mental Deficiency Act, is announced to read a paper before the London District Poor-law Conference on May 11th on "The Administration in London of the Mental Deficiency Act."

Reviews and Notices of Books.

Sanatoria for the Tuberculous, including a Description of many Existing Institutions and of Sanatorium Treatment in Pulmonary Tuberculosis. By F. RUFENACHT WALTERS, M.D. Lond., M.R.C.P. Lond., F.R.C.S. Eng., Joint Tuberculosis Officer to the Surrey County Council. Fourth edition. London: George Allen and Co. 1913. Pp. 445. Price 12*s.* 6*d.*

OWING to the vast extension of the antituberculous machinery in various parts of the civilised world the author has deemed it necessary to rewrite the present edition. He has also taken advantage of the opportunity to give a more complete description of the principles and methods of sanatorium treatment. Unfortunately, the term "sanatorium treatment" has given rise to much misapprehension, the idea being rife, not only amongst the laity but also amongst practitioners, that whenever an individual is suffering from pulmonary tuberculosis, no matter what type the disease may present, he or she ought to go into a sanatorium. Consequently this form of treatment has been somewhat discredited, not by a failure on the part of the treatment, but on account of the totally unsuitable cases which have been sent to the various institutions.

Dr. Walters, in discussing the scope of sanatorium treatment, states that although originally intended for early and easily curable cases, it has been found impossible to limit admissions to this class. He suggests that a modern sanatorium requires at least two more or less separate departments, one for the rest cure of those who are feverish or otherwise unfit for exercise; and another for physical training by graduated exercise. We believe that better results would be obtained and that confidence would be again restored if only those patients were sent to sanatoriums who are able to take exercise and be out of their beds most of the day; febrile cases being treated at other institutions or at home if the circumstances are favourable. We quite agree, however, with the remark that mere pleasure seekers and those who will not submit to a regulated life are best excluded. Several chapters are devoted to a consideration of sites and climates suitable for the erection of sanatoriums, and the construction, decoration, and necessary furniture for such institutions are duly discussed.

The remarks on sanatorium treatment and its results are worthy of careful study. As Dr. Walters remarks, if the fresh-air treatment merely consisted in letting every patient rest in the open air, or follow his own inclinations as to the amount of exercise, it would be an exceedingly simple matter, scarcely requiring medical supervision. But the essence of sanatorium methods is the elimination of haphazard treatment and the prescription of absolute repose or of various degrees of exercise, according to definite medical indications. Details are given of the daily life to be followed by patients suffering from pulmonary tuberculosis, stress being laid on the differences to be observed in febrile and afebrile cases respectively. The chapter on rest and exercise for the afebrile is a good summary of the principles which should be followed.

In speaking of the results of treatment Dr. Walters shows how difficult it is to obtain accurate statistics. He rightly points out that these results depend on three factors: on the nature of the case, the nature and circumstances of treatment, and the appeared healthy, but had a patch of tuberculous deposit near it, while the left showed only slight hyperæmia. The urine from the latter, however, was of low specific gravity and contained tubercle bacilli, while that from the former was normal. A markedly tuberculous left kidney was removed and the patient did well. A tuberculous condition was sometimes masked by a bacillus coli infection, as in a case referred to. Tuberculin treatment had been very successful in the case of a woman who was found by catheterisation to have only one functioning kidney, and that tuberculous.

Wigan Medical Society.—A general meeting of this society was held on Feb. 20th, Dr. John Thomson Shirlaw, the President, being in the chair.—Dr. R. Prosser White opened a discussion on the Control of Syphilis. Dr. White gave as heads of his subject the following: (1) That the profession in this country had shirked its responsibility; (2) that the public was ignorant; (3) that dermatologists had forced the matter into the light of a public inquiry; (4) its prevalence and ravages; (5) it should take precedence of tuberculosis; (6) the methods of dealing with it in other countries; (7) should it be notified, if so, how? and (8) the one way of control. Dr. White did not take these divisions in the order given, but they formed the framework of his paper. He held that it was largely due to the apathy of the profession and the ignorance of the public that they in this country were in such a backward state as regards the recognition and treatment of syphilis, that dermatologists had been keepin the matter in the foreground for years, and that it was l ely due to their efforts, here and in other countries . progress as could be recorded was made. In G practically no statistics outside th

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ce that as a stude written in the form of lectures always proved a refreshing oasis in the desert of an examination "grind," so much so that he resolved to cast his own text-book of nervous disease in that form. He has, however, attempted a compromise by the inclusion of tables of symptomatology and of differential diagnosis, and by the addition of a very full index to the subject matter of, and incidental allusions in, the lectures. Without discussing the question of whether the disadvantages of the lecture type of text-book do not outweigh its advantages, we may say at once that these lectures of Dr. Bing are very readable and lucid, that they cover the whole field of neurology, perhaps a little unequally, and that they bear witness to the author's clinical experience and erudition.

The chapters are arranged under such general headings as diseases of the peripheral nerves, the dyskinesias, pathological conditions characterised by spasticity, acute infective nervous diseases, syphilitic nervous diseases, encephalorrhagia and encephalomalacia, arteriosclerosis, infantile hemiplegia and diplegia and Little's disease, cerebellar diseases, dysglandular symptom-complexes. An arrangement of this sort presents certain features that are obviously open to objection. Thus the common condition of hemiplegia, to take but one instance, is subdivided and spread over several separate headings; there is, as it were, a cross division of the subject instead of a longitudinal. We should think that the originality and suggestiveness of the book would be best appreciated by those who already have a fair knowledge of neurology as a whole. In a book which describes itself as a "Lehrbuch" we should like to see references to the symptomatology of the uncinate region; this appears to have been overlooked. Among the types of crossed hemiplegia there is no reference to the type with hemiplegia on one side and blindness in the contralateral eye. We cannot find adequate description of the rôle of the spirochæta in general paralysis. The allusion to myotonia atrophica is

System of Ophtha[illegible], though 2 pe Walter L. Pyle, of Phila se other Darier's "Ophthalmic Therap[illegible]" and Mayou's "Pathology and Bacteriology of the Eye," already reviewed in our columns.

It must have occurred to many teachers of ophthalmology to write a text-book dealing with diseases of the eye from the standpoint of signs and symptoms. It is the aspect of the subject which is presented to the surgeon and student by every case he sees. Yet it is not surprising that so difficult a task has not hitherto been seriously attacked. Only those of very wide clinical experience could attempt it, and to them the time necessary for carrying out the project is usually lacking. Dr. Beard has made a valiant effort, but it must be admitted that the result is not completely successful. The book is divided into two parts, of which the second is devoted to the fundus oculi and consists of eight chapters or 180 pages. The first nine chapters, or 196 pages, suffice for all the diseases of other parts of the eye. Such an unequal division of the subject carries its own condemnation, and it is only the portion dealing with fundus conditions which can be said to be adequate. This part is really well done, and the beautiful coloured plates and numerous black-and-white illustrations in themselves make up a desirable ophthalmoscopic atlas. Even here, however, the author uses space which he can ill afford for theories of detachment of the retina and so on, problems of great interest but not immediately germane to semeiology. In the first part, where space was still more valuable, we find pages devoted to elaborate classifications of cataract and the theories of its causation, while important subjects like interstitial keratitis and cyclitis are dismissed in a few words.

The book is well printed, with the exception of a few Greek derivations, almost all of which contain misprints. It is worth buying for the illustrations and the text of the part devoted to the fundus oculi.

A Text-book of Physiology for Medical Students and Physicians.

By WILLIAM H. HOWELL, Ph.D., M.D., Sc.D., LL.D., Professor of [illegible] Hopkins University, Baltimore. [illegible] revised. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 1020. Price 18*s.* net.

THE advances in all departments of physiology are so rapid that to select and to add to the text of a well-considered and approved work on physiology, such as the one before us, the significant and salient new facts that have been discovered during the past two years is no easy task. We think the author has succeeded, as in former editions, in keeping his text-book abreast of current investigations. Since the publication two years ago of the fourth edition, which was reviewed in THE LANCET of Dec. 16th, 1911, p. 1707, material advances have been made in physiological chemistry, and more especially in that department which deals with the details of intermediary metabolism. Moreover, our increased knowledge of the specific functions of the different proteins in the growth and the maintenance of the body has opened up a new path, which bids fair to be of fundamental importance in dietetics. In this connexion the exposition of the author on such subjects as the nutritive value of different proteins, the specific dynamic action of proteins and vitamines is terse, illuminating, and suggestive. Here and there we find additions to the literature quite up to date, so that the advanced student can, by consulting this book, pursue in greater detail the subject he is interested in.

Substantially this edition, in all its arrangements and essential details, is like the last edition with here and there some new matter judiciously added so as practically not to increase the bulk of the volume. So far as the actual number of pages is concerned the increase amounts to only two pages, while the number of illustrations is practically the same in both editions. The book remains a safe and comprehensive exposition of the present state of our knowledge on physiological matters in application to medicine.

Konstitution und Vererbung in ihren Beziehungen zur Pathologie.

Von Professor F. MARTIUS. With 13 illustrations in the text. Berlin: J. Springer. 1914. Pp. viii.-258. Price 12 marks.

THE year 1914 is to be marked by the publication of the first half dozen volumes of a new series of German medical text-books. They are to form an "Encyclopædia of Clinical Medicine," edited by Professor Langstein, Professor von Noorden, Professor von Pirquet, and Professor Schittenhelm. Each is to combine clinical science with clinical practice; each will be complete in itself, a full and authoritative exposition of its subject; together, the separate manuals are to cover the whole field of clinical medicine, both general and special. This, the first volume to appear, deals with constitution and inheritance, and gives as clear an account of those much misused terms as one may hope to find. Professor Martius writes at full length, quoting freely and freely criticising many of the authors who have busied their pens with this subject before him. He confines himself to general principles, and but rarely falls back on their practical applications in daily life. Thus he has singularly little to say on the subject of inheritance in tuberculosis, the familial predisposition to phthisis. [illegible]
sine quâ [illegible]
commone [illegible]
persons; for the rest, his few isolated references to this important subject leave it unilluminated.

The book is well written, thoroughly indecisive, and perhaps inevitably so. One rises from its perusal with a feeling of the unreality pervading much that has been written about constitutions, diatheses, family tendencies, and the like, terms that so conveniently cloak ignorance and stem the tide of research into the obscurities of causation in disease. Professor Martius has produced an interesting volume, and it may be warmly commended to the attention of all medical philosophers.

Chirurgie Générale et Chirurgie Orthopédique des Membres.

Par PL. MAUCLAIRE, Professeur Agrégé à la Faculté de Médecine, Chirurgien de la Charité. Avec 317 figures dans le texte. Paris: J. B. Baillière et Fils. Pp. 542. Price, paper, 10 francs; boards, 11.50 francs.

THIS is another volume of the excellent Nouveau Traité de Chirurgie, edited by Professor A. Le Dentu and Professor Delbet. From the title of this volume it will be seen that it covers a large area. The first section deals with the subject of traumatism of the limbs, and the second treats of the infections. In the third section the tumours of the limbs are considered, and here it may be noted that the author has included the tumours of the shoulder girdle and of the hip girdle; this is as it should be, as both embryologically and pathologically these are essentially parts of the limbs. It is probable that the most valuable part of the volume is that dealing with deformities, for, indeed, these must always form a very large portion of the conditions in the limbs requiring surgical treatment; here we see the author at his best, and the wealth of illustration, when added to the clearness of the descriptions, renders the book a most valuable treatise on this important subject.

We may draw attention to the account of the surgical treatment of infantile paralysis. This is always a very difficult subject, and the number of methods that have been devised for treating the deformities resulting from these paralyses is very great; but Professor Mauclaire has succeeded in putting very clearly the various procedures at the surgeon's command, and his advice as to the choice to be made is judicious.

The Administrative Control of Small-pox.

By W. McC. WANKLYN, B.A. Cantab., M.R.C.S. Eng., D.P.H. London: Longmans, Green, and Co. 1913. Pp. 86. Price 3*s.* 6*d.* net.

THIS is a companion volume to the useful little work by the same author entitled "How to Diagnose Small-pox," which was reviewed in THE LANCET of Oct. 25th last year. Mr. Wanklyn tells us that it was drafted primarily for post-graduate students reading for the Diploma in Public Health, but we agree that it will also be found useful by those who have to deal with outbreaks of small-pox.

As in his former work, Mr. Wanklyn adopts a conversational style, and his talk to his readers is that of a health officer with special knowledge of the disease, who knows how to impart the essential matters which he has learnt by experience. The book is all that can be desired as a guide to the student on the methods of control adopted in London and in large centres of population where there is an extensive and well-organised sanitary equipment which includes a first-rate ambulance service and a sufficiently isolated small-pox hospital kept at all times in readiness. As a practical guide to the medical officer of health of a smaller provincial town or rural district it is rather less satisfactory. Here, when the medical officer has a casual case or two of small-pox to deal with, he may be quite unable to "telephone the case away," or "dispatch his staff to make inquiries," or to do other things which come so easy in the metropolis. But he need not on that account consider himself on the brink of disaster if he keeps in mind a few simple principles based on the elementary facts of small-pox and vaccination and applies them to the circumstances. In this connexion we note that Mr. Wanklyn includes, as the seventeenth proposition of small-pox administration, that reports should be sent to the "proper authorities." It is well to be specific; the authorities in question are the Local Government Board and the county council, and the medical officer of health in the circumstances to which we refer would find it advantageous to reckon reporting to these bodies among the first of his duties. However well he may have the matter in hand, a valuable reserve force will then be behind him.

The author rightly lays stress on the necessity of keeping small-pox in mind in inter-epidemic periods, and being always on the watch for its unexpected appearance. But it is going rather far to recommend every medical officer of health to have reported to him "newspaper accounts of small-pox occurring within 14 days' journey," or to keep "a note of small-pox occurring in no matter what part of the world." We do not know how far these matters receive attention at the Local Government Board, but they seem essentially questions which one central health authority could sufficiently study for the needs of the whole country.

LIBRARY TABLE.

Collected Papers. By the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minnesota. For the year 1912. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 842. Price 24*s.* net.—We have on two previous occasions expressed our approval of the practice (adopted by the Mayo Clinic) of reprinting in one volume the papers published in the periodical press by the members of the staff of that hospital, so that it is unnecessary to say more than that we are pleased to see another volume of their collected papers. This volume contains some 69 papers ranging over the whole of surgery, from diffuse dilatation of the œsophagus to a bony tumour of the foot. The volume is well illustrated and well printed. It is difficult among so many interesting papers to say which are the most important, but a few may be referred to as of special interest. Three papers on Diverticula of the Bowel may be mentioned. The first is on the Diagnosis of Diverticulitis of the Large Bowel, by Dr. H. Z. Giffin. This is based on 27 cases at the Mayo Clinic on which operations were performed during the ten years ending Jan. 1st, 1912. The resemblance of the symptoms in many of the cases to carcinoma of the bowel is sufficient justification for a thorough study of this rather rare condition. The same 27 cases have been analysed in a paper by Dr. B. F. McGrath. This analysis shows that in 20 out the 27 cases the diverticula were situated in the sigmoid. A third paper is by Dr. Charles H. Mayo, and it deals with the whole subject of Diverticula of the Gastro-intestinal Tract and their Surgical Importance. All the papers give valuable data for the consideration of a subject which is now attracting a good deal of attention. Another paper to which we should like to draw attention is on the Surgical Importance of the Thymus, by Dr. C. H. Mayo and Dr. B. F. McGrath. It represents very fairly the present state of our knowledge on the subject. The conclusions that the authors draw are for the most part not very definite, except that the most satisfactory method of relieving the symptoms of enlarged thymus is by operation.

Short Key to the Identification of the Anopheline Mosquitoes of Malaya, for the Use of Medical Officers and Others. By C. STRICKLAND, M.A., B.C. Kuala Lumpur, F.M.S.: Government Printing Office. 1913. Pp. 15.—Though several large and comprehensive works exist, as well as, of course, many memoirs, in which the anopheline mosquitoes are described, it is a laborious task to hunt a particular species through many pages of description and plates or text-figures of illustration. The author of this "key," therefore, is undoubtedly performing a useful task by selecting from the total the 15 species which convey malaria, and defining them in an easy fashion. For all practical purposes, says the author, there are no more than these 15. Diagrams of wings, legs, and other parts of the mosquito organisation illustrate the characters used to differentiate one from another, the species of anopheles dealt with, and the medical officer—or indeed a less instructed person—cannot but identify by its help the flies before him. The chief danger of such a key, which is not ignored by the writer, is that the discovery or inclusion of other species may render it difficult or comparatively useless for its purpose. A list of the principal references to the literature is appended.

The Cancer Problem: a Statistical Study. By C. E. GREEN, F.R.S.E. Third edition. Edinburgh and London: William Green and Sons. 1914. Pp. 98. Price 5*s.* net.—Mr. Green's view that there is a direct relationship between the sulphur content of the fuel consumed and the mortality from cancer was considered in an annotation in THE LANCET of August 16th, 1913, p. 506, so that it is unnecessary to discuss it further here. Suffice it to say that he draws his support for his theory from the relationship he endeavours to establish between cancer incidence, occupation, and locality. The book contains illustrations of apparent malignant disease in the underground parts of plants, which the author attributes to vitriolated manures.

Practical Nursing. By the late ISLA STEWART and HERBERT E. CUFF, M.D.Lond., F.R.C.S.Eng. Fourth edition, revised and enlarged, by H. E. CUFF, assisted by W. T. GORDON PUGH, M.D., B.S.Lond. Edinburgh and London: William Blackwood and Sons. 1913. Pp. 448. Price 5*s.* net.—This work was originally published in two volumes, the first of which was reviewed in our issue of April 21st, 1900, and the second, which took some time to appear, in our issue of Oct. 17th, 1903. A further edition was reviewed in 1905, and concerning the edition now before us we can but repeat that which we then said—namely, that the book is sound, practical, and useful. The new matter deals with the treatment of disease by vaccines, light, and X rays, and the rationale of these three methods of treatment is clearly and simply explained. The book is one that might be useful to newly qualified men just entering practice

MISCELLANEOUS VOLUMES

THE South African Red Cross Society, recognising the large number of persons to which the mining industry of various kinds in South Africa gives employment, and the special liability to serious accidents, often of a specialised character, has issued an admirable little volume, entitled *First Aid in Mining*, by Dr LOUIS G IRVINE (Johannesburg South African Red Cross Society 1913 Pp 118) The booklet describes the materials provided for first aid treatment in mining accidents, the usual first-aid treatment for wounds, fractures, bleeding, &c , and the transport of the injured in mining accidents with descriptions of various kinds of stretchers for use underground These are followed by chapters on Accidents from Poisonous Gases ("gassing"), from Electricity, and Cyanide Poisoning The book will be useful in many industrial works as well as mines —— We have already noticed several of the excellent manuals published by the British Red Cross Society To these Lieutenant Colonel S GUISE MOORES, R A M C , has now added a *Hygiene and Sanitation Manual* No 4 (London, New York, Toronto, and Melbourne Cassell and Co , Limited 1914 Pp 184 Price 1s net) It has chapters on the Prevention of Disease, Water and Water supplies, Food and Sanitation, Personal Hygiene and Allied Subjects, Household Sanitation, and Field Sanitation, with appendices concerning the Red Cross and its Work There are some admirable coloured illustrations of various disease micro organisms, besides ample diagrams and sketches to illustrate sanitary construction and other matters In view of the importance attached in the modern defence scheme to the services of voluntary aid detachments a manual of this description was much needed ——The *Aids to Medicine*, by Dr BERNARD HUDSON (London Baillière, Tindall, and Cox 1914 Pp 322 Price 3s 6d net), now appears in its second edition It is claimed that the subject matter has been revised, added to and brought up to date, and such we have found to be the case by some tests which we have made Works of this character, we find it necessary to repeat, may be useful, but only if properly used as adjuncts to serious work, and not as substitutes therefor —— The Scientific Press, Limited continues to add to its Pocket Guide Series, price 1s each net In *Asepsis and How to Secure It* Mr H W CARSON, F R C S , gives such details for nurses as are calculated to enable them intelligently to coöperate with the surgeon and to impress upon them the importance of forming surgical habits In *Wounds and their Management*, Dr J K WATSON gives an intelligent summary of the view of the subject which will prove of service to nurses and to first aid students *Surgical and Medical Dressings and other Applications*, by M R HOSKING, compresses a great deal of useful information into a small space The Scientific Press also sends us the *Nursing Mirror Pocket Encyclopædia and Diary*, 1914, and the *Midwife's Pocket Encyclopædia and Diary*, 1914 (the price of each of which is 6d net) both of which contain, besides blank diary sheets, much suitable information about a wide range of professional subjects such as antitoxins, bacteria baths, diet, fumigations, legal notes, electricity, registration of births and deaths, the Midwives Act, and rules of the Midwives Board

We have had occasion to refer to many books dealing with South Africa and the South African war, and to these must now be added *Sister Henrietta* (London Longmans, Green, and Co 1914 Pp 157 Price 2s 6d net) Edited by Dowager Lady LOCH and Miss STOCKDALE — Sister Henrietta (Stockdale) was a pioneer of the nursing craft in South Africa and her organising and administrative capacity did much to build up the nursing profession in the Dominion The book deals with her home life, extracts from her correspondence and her diary during the war from October, 1899, to February, 1900—i e , during the siege of Kimberley The final chapter deals with hospital work in Kimberley from 1879, and is written by one of Sister Henrietta's oldest friends and fellow workers who came to work under her there in that year Lady Loch, in the preface, speaks of Sister Henrietta as "one of the finest women characters I have ever known in my long life," and judging from the portrait opposite the title page one can well believe it

An interesting book is *The Garden City Movement Up to Date* (London Garden Cities and Town Planning Association 1914 Pp 82, with 40 plans and 22 views Price 1s net), by Mr EWART G CULPIN The introduction reviews the history of the movement along the lines advocated by Mr Ebenezer Howard, from 1899 to 1914 The essential principles of a garden city are laid down, and the differences are defined between garden cities, garden suburbs, and garden villages In the introduction to the second edition the phenomenal growth of the system in 1913 is *detailed*, but the warning is added that "many of the schemes that are called garden city schemes have nothing in common with the Garden City Movement but the name, which they have dishonestly appropriated " Pages 19 to 60 are occupied with particulars of the various estates arranged in alphabetical order, while pages 61 to 67 deal with the garden city movement abroad A table gives a summary of the present position of all those estates and societies of which particulars are available (58 in number) as regards area, proportion developed, mode of control, houses and population, rents and rates

JOURNALS AND MAGAZINES

The Journal of Physiology Edited by J N LANGLEY, Sc D , F R S Vol XLVII No 6 Feb 27th 1914 Cambridge University Press Pp 407–508 Price 6s 6d — The Effect of Glucose on the Gaseous Metabolism of the Isolated Mammalian Heart, by C Lovatt Evans With a view to obtain data as to the influence that glucose exerts on the gaseous exchanges of the normal heart, which might subsequently be studied in the hearts of diabetic animals, the author experimented on the now well known normal heart lung preparation (dog) The addition of glucose to the circulating blood of such a preparation raises the respiratory quotient which in the author's opinion indicates that the isolated organ has the same power as has the entire organism to carry out to full completion the oxidative processes which it commences The respiratory quotient, however is not raised beyond a certain maximum, which usually lies below 0 9 The respiratory quotient of the heart is markedly increased by previous carbohydrate diet and it is then often decidedly higher (above 0 9) than that which is obtained by the addition of glucose to the blood It is calculated that the normal heart of the dog obtains about one third of its energy supply by oxidation of carbohydrate But in animals deprived of carbohydrates for some time previously the amount may be, and usually is, much less than this —Further experiments on the Action of the Vagus on the Electrogram of the Frog's Heart, by G Ralph Mines This contribution enlarges and carries forward the author's intimate study of this subject Apart altogether from the tecl [illegible]
by [illegible]
the [illegible]
vag [illegible]
the effect on [illegible] ven
tricle remain [illegible] rate
of transmiss [illegible] and
diminution in the duration of the excited state in the ventricle —On the Average Composition of the Alveolar Air and its Variations during the Respiratory Cycle, by A Krogh and J Linhard (Copenhagen) The authors describe methods by which the varia [illegible] air taking place during a [illegible] be studied, and they state [illegible] They also state that "during muscular work the alveolar CO_2 percentage, as determined by the Haldane Priestley method, is much too high and the O_2 percentage too low —The Effects of Adrenalin on the Gaseous Metabolism of the Isolated Mammalian Heart, by C Lovatt Evans and Sagaro Ogawa (Japan) Barcroft and Dixon found that the oxygen consumption was much increased when adrenalin was given in such doses as to accelerate the heart The present investigation was directed to find the effects of adrenalin on the respiratory quotients of the isolated heart The effects of adrenalin were studied on the isolated heart in two ways . (1) by adding small amounts of adrenalin and

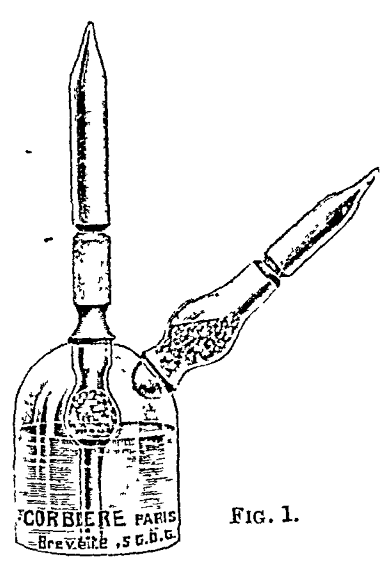

FIG. 1.

“AMPSALVS”

THE MOST SIMPLE,
THE MOST CERTAIN,
THE MOST ECONOMICAL

Apparatus for the instantaneous preparation of an aseptic solution of NOVARSENOBENZOL (Ehrlich's 914) for its aseptic filtration and for its direct aseptic entry into the syringe.

The NOVARSENOBENZOL (Ehrlich's 914) is contained in the ampoule P, which has been hermetically sealed after having been freed from air.

Numerous tests have led us to prefer keeping 914 in a vacuum to keeping it in nitrogen. By the industrial preparation of nitrogen by means of fractional distillation of liquefied air, it is practically impossible to obtain the pure gas. It invariably contains traces of oxygen, which tend to cause a change in the 914.

The body of the flask L contains freshly doubly distilled and sterilised water. A filter tube F, sealed at its upper end, is immersed in the water to the bottom of the flask.

METHOD of EMPLOYMENT.—The ampoule P is broken at the point T, after having been incised by a file. The stilet supplied with the apparatus, having been sterilised by heat and then cooled, is now introduced into the open tube and the ampoule broken in such a manner that all the 914 falls into the distilled water. The procedure is readily carried out; the flask should now be shaken. The Novarsenobenzol dissolves very rapidly. The vertical tube is now opened at T. Into the rubber cylinder, which projects, the nozzle of a glass syringe having 10 cc. capacity is now introduced, and the fluid gently aspirated. The aseptic and filtered solution of 914 thus reaches the syringe directly (Fig. 3). A few drops of fluid remain at the bottom of the flask and in the filter tube, but we have allowed for this in the quantity of 914 provided.

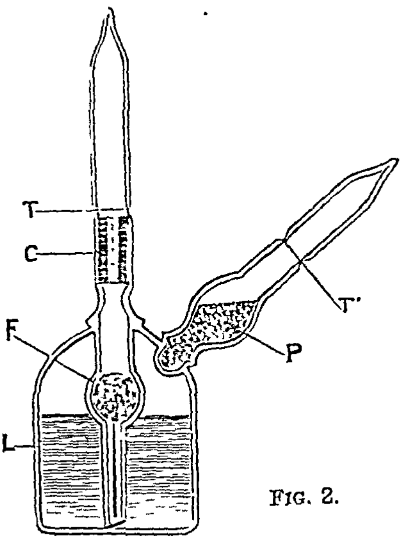

FIG. 2.

PRICES TO THE PROFESSION of our patented “Ampsalvs,” containing 914 and doubly distilled water, free from air:—

“Ampsalvs,”	containing	0·15 grm. (2 grs. 25) ...	4s. 6d.
do.	do.	0·30 grm. (4 grs. 50) ...	6s. 0d.
do.	do.	0·45 grm. (6 grs. 75) ...	7s. 6d.
do.	do.	0·60 grm. (9 grs.) ...	8s. 6d.
do.	do.	0·70 grm. (11 grs. 25) ...	9s. 6d.
do.	do.	0·90 grm. (13 grs. 50) ...	10s. 6d.

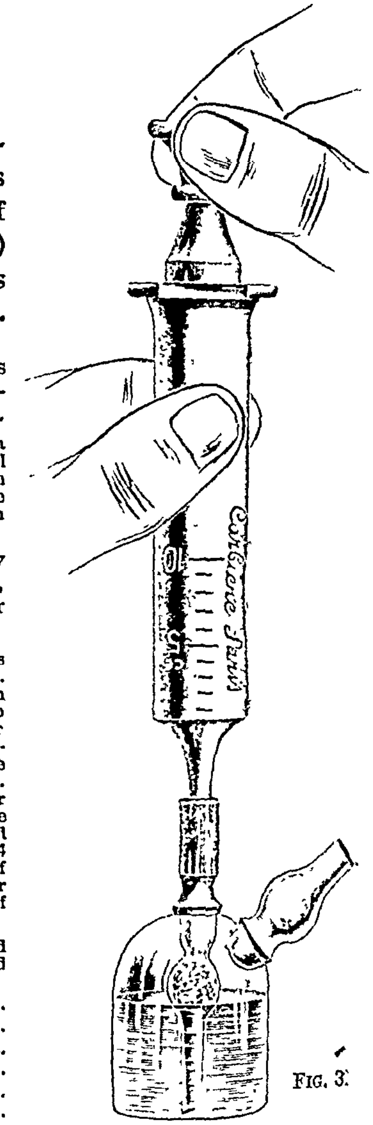

FIG. 3.

“SUPSALVS”

Stable Suppositories containing ARSENOBENZOL (EHRLICH'S 606)

(PROFESSOR BAGROV'S METHOD.)

The rectal method of administration of 606 may be recommended to medical men who do not wish to employ intravenous injections. It yields excellent results, absolutely comparable with those obtained by the intravenous method, and is free from all risk.

This success is explained by the well-known experiment of Levaditi: “If living treponemas be placed in a solution of arseno-benzol (Ehrlich's 606), they continue to live in it. But if a trace of extract of liver be added *to the mixture* the treponemas are destroyed.”

If 606 has to be taken up and transformed *by the liver* in order to become toxic to the treponema, there can be no better mode of absorption of the drug than *by way of the intestine*, since all the *veins of the intestine* join the *portal vein*. If this be the case no route could be more indirect and more unsatisfactory for active treatment than one that is not intestinal or not intravenous (i.e., pre-hepatic), since some of the drug must necessarily become fixed everywhere before its passage through the liver has activated it.—Dr. SABOURAUD, *La Clinique*, 13-4-13.

As the result of numerous clinical experiments Dr. Bagrov of Moscow has arrived at the same conclusions, and extols the rectal method of administration of 606.

In order to render the employment of suppositories containing 606 practicable, it was necessary to find some excipient that does not alter the active principle, even if kept for a long time, and that facilitates its absorption by the intestinal mucous membrane. This requirement has been realised in our suppositories, each of which contains 0·10 grm. (1 gr. 5) of arsenobenzol (606).

Box of 6 “Supsalvs,” Adults, 12s.; do., Infants, 7s. 6d.

MODE of EMPLOYMENT.—One suppository every three days, preferably after the bowels have been cleansed by an enema, until six suppositories have been administered. Then an interval of a fortnight. The treatment is then repeated in the same manner, until three series of six suppositories each have been employed. In acute cases one suppository may be administered daily without any harm, treatment being continued for a week.

Sole Agents for British Empire for “Ampsalvs” and “Supsalvs”—M. BRESILLON & Co., Gamage Buildings, Holborn, London, E.C. Teleg. Addr. “Ampsalvas,” London.
West-End Depot—WILCOX & JOZEAU, 49, Haymarket. 'Phone: 2521 Gerrard.

THE LANCET.

LONDON: SATURDAY, MARCH 21, 1914.

The University of London.

ALTHOUGH the proposals set forth in the Report of the Royal Commission on University Education in London may not be acceptable in all details, yet the broad general principles of this report provide a basis from which, in our opinion, a workable scheme can be evolved. The aspect on which we still attempt to concentrate the attention of our readers is whether or not the scheme proposed in the report, if adopted in its main principles, is calculated to produce a real university in London—an institution, that is, which shall not only complete the purely educational curriculum of the student, stamping him as qualified in certain professional, literary, or business directions, and moulding him by contact with his fellows, but shall also provide facilities for research and support the cause of learning by growing proportionately with the development of the world's wisdom. The question which at once becomes of supreme importance is how to deal with the external side of the present University, and how to arrange the granting of degrees to external students. There is no doubt that the chief reason for the failure of the University of London to achieve what was expected when it was reconstituted in 1898 is the existence among the students of internal and external sections whose interests are irreconcilable; while an added disability is the unworkable character of the organisation. There is danger that unless some solution of the difficulties thus caused can be found, such as will prevent their hampering influence upon the development of the best aspirations of the University, the work of Lord HALDANE'S Commission will be of no avail.

The system on which the granting of external degrees is founded is one under which, in the hands of the University of London, many great men have been educated, and it must be admitted that this system fulfils a need in the country for the present; and so long as this is the case it should, and will, continue. But it is based upon the view that the passing of an examination is the main preliminary to the taking of a degree, so that it becomes a matter of minor importance how or where the knowledge has been acquired. So long as this system holds a prominent place in the University of London, out of any belated reverence for old ideals, it is inevitable that students and the public at large will regard the granting of a degree as the most important work of the University, and will aspire to the degree rather than to the acquisition of knowledge and the training and discipline of the mind which should be regarded as by far the most important results of a university education and training. The essential attributes of a university consist, not primarily in the power of granting degrees nor in machinery for examining, but in teaching and in the expansion of the sum of human knowledge by the organisation and promotion of research. Much of the evidence which was laid before the Royal Commission was directed to this point, and on this follows the need for the modification of the external side of the University and for the creation of a local university, in which residence in London, and a training in a college or school of the university, should be required for graduation. The Commissioners are in complete agreement that external degrees should be abolished, and they have no doubt that in the broader national interest the sooner the demand for external degrees can be reduced to a point at which the degrees themselves can be discontinued without individual hardship the better it will be both for schools and teachers. We agree with their admission that it would not be possible in the present state of public opinion for the University to abandon completely the granting of degrees on the results of examinations alone, but as far as the Medical Faculty is concerned—and that is the one we are specially interested in—we cannot follow the reasoning of those who consider that a university discharges its responsibilities equally well by merely examining students as by training them. The scheme recommended in the Report of the Royal Commission is brought forward as part of a national policy intended to make all the universities in the country more accessible to the poor but capable student, and when this is carried out the Commissioners believe the demand for external degrees will dwindle and ultimately disappear. We are entirely of this view, but if the end of the external student is approaching naturally violent interference becomes unnecessary.

Here some points in the reconstruction of the University proposed by the Commissioners may be conveniently recalled. The Senate, it is suggested, should be constituted as a small body essentially lay in composition—that is to say, not composed of the teaching element so as to be in any way representative of particular interests; while there is to be withdrawn from it the present strong representation of the external side, large and important powers and duties are to be allocated to the Faculties which are to be composed of the teachers. All these things would have the effect of creating a governing body which could carry out big decisions with promptitude, and could make wise delegations of authority and responsibility in the necessary directions. Although the Commissioners recommend that candidates who have not studied in the colleges or schools of the University should be admitted to the general examinations for degrees, there are two groups of studies in which

METCHNIKOFF gives a full account of the investigations which he has been carrying on for the last four years to solve some of the bacteriological problems in connexion with epidemic diarrhœa. The conclusions at which he arrives are of interest as showing that probably two varieties of bacteria are always concerned in the pathological process, one being proteus, the other being one of a considerable number of alternative types, the reciprocal reaction of the two varieties being symbiotic in character.

The unsatisfactory interpretation of the pathogenesis of epidemic diarrhœa among infants in terms of pure bacteriology induced CZERNY and FINKELSTEIN in Germany and ROTCH in America to search for other causes, and hence have arisen in their various degrees of elaboration the several theories of "food-injuries," propounded by these observers and their followers. It is needless to explain here exactly what these theories are, how they differ, or how they agree, but generally it may be stated that it is claimed that the food of an infant, though of irreproachable cleanliness and absolutely germ-free, is yet capable, if given in excess or in unsuitable form, of producing injuries in the digestive organs or to the processes of nutrition, whose symptoms are indistinguishable from those classified as epidemic diarrhœa. The old dogma that breast-fed infants are relatively immune to the ravages of summer diarrhœa finds ample justification in this food-injury theory, for there is some physiological adaptation of the natural supply of milk to the requirements of the breast-fed infant: and further, MEINERT has shown that the demand for increased fluids in hot weather is regulated by the breast, for as the result of numerous observations he has been able to prove that breast milk is thinner and weaker in summer than in winter. Among bottle-fed infants the increased thirst in hot weather is usually met by an increased consumption of the solid as well as of the fluid constituents of milk, hence the aggravated dangers of food-injuries among the artificially fed. The experiences of carefully conducted infant consultations, both in this country and abroad, certainly seem to show that the disproportionate incidence of epidemic diarrhœa among breast-fed and bottle-fed infants is largely a matter of control, especially when accurately measured quantities of dried milk are employed in the feeding. From the theory of food-injury to the theory of heat-injury was an easy and natural progression, and at the present moment, as all medical men know, the tendency is to attach great and increasing importance to the direct effects of heat in the determination of summer diarrhœas. Among investigators on these lines SCHLOSS, SALLE, LIEFMANN, LINDEMANN, FLÜGGE, and many others, have contributed evidence to show that there is a certain parallelism between the incidence of diarrhœa and the maximum temperature, and in this connexion it is of extreme importance to note that the maximum temperature obtaining in small and badly ventilated rooms by no means synchronises with that registered in the open air. The temperature within may show a retardation of some five or six hours, and often exceeds the temperature without by some 9° or more. The high temperature of small rooms, possibly also the increased humidity of the air, and its defective circulation, must clearly be taken into account as important factors in the etiology of diarrhœa. Injuries produced by heat may be of exactly the same nature as injuries produced by food, for heat may render an otherwise physiologically adjusted dietary relatively excessive.

It seems, then, that the problem of the etiology and pathology of summer diarrhœa can be solved neither by the bacteriological theory of ESCHERICH, nor by the food-injury theory of CZERNY, nor by the heat-injury theory of FLÜGGE and MEINERT. None of these theories singly and individually are capable of explaining the rise of the incidence in summer and the relative immunity of breast-fed infants, though taken in conjunction and in combination they may be regarded as affording an adequate solution.

It was hoped to discover by the convening of this timely conference at the Queen's Hospital the best means of securing the coöperation of the public, of the local health societies, and the medical officers of health in a concerted attempt to prevent the annual sacrifice of infant lives through epidemic diarrhœa. The authorities at the hospital recognise that, beyond providing a special ward for the reception and treatment of urgent cases and special facilities for the treatment of mild cases in the casualty department, they are powerless to stem the tide of this annual visitation. The medical committee of the hospital has drawn up full directions for the guidance of the resident staff of officers, a very necessary prevision in view of the constantly changing character of its *personnel*. The medical committee has further published in leaflet form certain simple rules for the treatment and prevention of the complaint. These are clearly stated and intended for wide distribution among the residents of the neighbourhood. The hospital authorities further earnestly invite local health societies to carry on an active educational propaganda, and beg local nursing institutions to follow up the advice given at the hospital by appropriate domiciliary visits. It is quite clear, however, that if these measures are to bear fruitful results the medical officers of health in the vicinity must lend all the official machinery of their departments in support of this activity on the part of the charity.

EAST LONDON NURSING SOCIETY.—The annual meeting of this society will be held at the Mansion House on Monday, March 30th, at 3 P.M., under the chairmanship of the Lord Mayor. Among those who will speak is Sir Thomas Barlow. The object of the society is to nurse the sick-poor of East London in their own homes by means of trained resident nurses.

Annotations.

"Ne quid nimis."

REGISTRAR-GENERAL'S NEW ANNUAL SUMMARY.

WITH the issue for 1912, which appeared early in the following year, the publication of the Registrar-General's annual summary as a separate document was discontinued. Early in each successive spring the appearance of this publication is eagerly sought for by local medical officers of health, because it contains authoritative statistics which are not otherwise obtainable, but which are nevertheless indispensable for the completion of their own annual reports. In these circumstances it occurs to us that those medical officers who do not receive direct returns from Somerset House will be interested to learn that, from the current year onwards, this indispensable information will be incorporated in the return for the December quarter of each successive year. The return (No. 260) for the last quarter of 1913 is now before us, and we are glad to note that it contains, in tabular form, the precise information referred to. And this, as a supplement to the quarterly returns for the last quarter of the year, will probably be published in future at an earlier date than is practicable under existing circumstances.

THE SUPPOSED DANGERS OF RIDING ASTRIDE.

THE Kaiser has issued an order expressing his wish that the wives of German army officers shall discontinue the practice of riding astride on horseback. A medical correspondent in the *Times*, in calling attention to this, asserts that any woman who habitually rides astride endangers her health and courts disaster. He further maintains that the strain accompanying the new seat tends to displace certain vital organs, or at least to render their supports insecure, and to foster malpositions and prolapse. The main reasons which are put forward by those who advocate riding astride for women is that there is less liability of the rider being dragged if her horse falls, and that the tendency to make the horse's back sore is minimised. No doubt with the old-fashioned style of riding habit and stirrup there was a very considerable risk of the rider being dragged if her horse fell, but with the modern safety skirt and safety stirrup this danger has practically disappeared. It is usually said that a good lady rider on a side saddle is in no danger of being thrown unless her horse falls. No doubt the seat is a very safe and secure one, but it is more difficult to learn to ride well on a side saddle, and with an indifferent rider the strain on the horse is certainly greater than when he is ridden astride. The matter is obviously one upon which authorities on the subject are not altogether agreed, and there are, no doubt, two sides to the question. In our opinion, however, the medical correspondent in the *Times* exaggerates the dangers of the new mode, and his positive assertions require some qualification. At first sight it might appear that the astride position, involving as it does some separation of the thighs, would cause relaxation of the muscles of the pelvic floor and so predispose to displacements. In the case of a rider with stirrups of the ordinary length and with a proper seat, there must be an amount of pressure on the pelvic floor more than sufficient in our opinion to counteract any relaxation due to the separation of the thighs. Further than this, whenever the saddle is gripped as it instinctively is, except when the rider is, so to speak, riding at ease, the contraction of the adductor muscles of the thighs is accompanied by a contraction of the muscles of the pelvic floor. At the very time then when a displacement appears to be most likely to occur, for instance in taking a jump or restraining a restive horse, the muscles maintaining the grip upon the saddle—namely, the adductor muscles of the thighs—come into action, and their contraction is accompanied by a corresponding contraction of the muscles of the pelvic floor, and any tendency to a displacement of the pelvic organs is in this way counteracted. By "the strain accompanying the new seat," we take it the writer means the *muscular strain accompanying the grip of the* knees on the saddle, and we see no reason to think that this would produce the results he anticipates, nor could we admit that simple separation of the thighs is accompanied by any tendency to displacements. Our objections to riding astride for women, if we were asked our opinion, would be based, not upon any possible danger of injuries to the pelvic organs, but upon the view that the seat is not nearly so secure a one for the average woman rider as that on a side saddle, and because the danger of being thrown is much greater. At the same time the risk of being dragged if thrown is certainly less, although, as we have pointed out, with a properly made safety habit and stirrup even on a side saddle this risk is a very small one. Any danger of injury to the pelvic organs when riding astride must be associated with the greater insecurity of the seat and the increased risk of being thrown, and not with the position *per se*, which we do not think in the case of a healthy woman is likely to have any injurious effect upon the pelvic organs.

PROPOSAL TO ESTABLISH TRAINED NATIVE MEDICINE MEN IN NATAL.

UNDER the laws passed by the old Natal Parliament it would seem that a most pernicious practice had grown up, under which the Government licensed certain natives, who had received no medical or nursing training of any sort, to practise medicine amongst the native inhabitants of the province. These natives, it is said, for the most part belonged to an ignorant and superstitious class, and to all intents and purposes were simply licensed witch doctors. Whatever may have been the reasons that led the Natal Government to license these men they can hardly be valid to-day. The Natal Medical Council was asked by a deputation from the Natal Missionary Conference, consisting of European and native clerics, including one or two medical missionaries, to consider some feasible means by which the present state of

the approval of the members of the deputation, for they considered it necessary to concede something to the feeling of Natal natives that they should be doctored by their own people. The deputation itself favoured the licensing of natives trained on a standard lower than that of the European substance present which is essential to the assimilability of food. If we accepted the position laid down we should have to conclude that there is something radically wrong with our methods of preparing food which seemingly ought to have favoured a general distribution of "deficiency diseases." A letter in another column has prompted these remarks.

THE COMPLIMENTARY DINNER TO SURGEON-GENERAL GORGAS.

AT this dinner, which will be held on Monday next, March 23rd, at 7.45 P.M., at the Savoy Hotel, we understand that the Archbishop of Canterbury and the Lord Chancellor, Lord Haldane, will be present, as well as the Colonial Secretary, Mr. Lewis Harcourt, and Viscount Bryce. The dinner is supported by Sir Rickman Godlee, President of the Royal College of Surgeons of England; Sir Francis H. Champneys, President of the Royal Society of Medicine; Sir David Ferrier, President of the Medical Society; Dr. W. A. Hollis, President of the British Medical Association; Sir Havelock Charles, President of the Society of Tropical Medicine and Hygiene; Sir William Osler, Regius Professor of Medicine, Oxford; Sir Clifford Allbutt, Regius Professor of Medicine, Cambridge; Surgeon-General Arthur W. May, Director-General of the Naval Medical Service; Sir W. Launcelot Gubbins, Director-General of the Army Medical Service; Professor W. J. R. Simpson and Dr. F. M. Sandwith, of the London School of Tropical Medicine; Sir Ronald Ross, Sir James Reid, and Sir Frederick Treves. The chair will be taken by Sir Thomas Barlow, President of the Royal College of Physicians of London, and the organisers of the dinner are particularly anxious that representative medical men should be present to do honour to their distinguished American guest. All communications should be addressed to Mr. J. Y. W. MacAlister at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W. The dinner tickets are 25*s*., and cheques should accompany applications.

"DICHOTOMY" IN THE UNITED STATES AND IN CANADA.

THE dodge of dividing fees secretly between the general practitioner and the operating surgeon was stated publicly not long ago to be rife in the United States and Canada. The question was discussed at the time with an acrimony that, despite some weak evidence, went far to prove the custom to be in vogue; and now the matter is again on the tapis. At the twenty-third annual meeting of the Western Surgical Association held in St. Louis on Dec. 19th and 20th, 1913, Dr. Jabez N. Jackson, of Kansas City, Mo., the President, in his presidential address, took "dichotomy," as the reprehensible practice is called, for his main subject. His objections to the practice were the obvious ones, and were formulated in the obvious manner. He said that dichotomy induced family practitioners to betray the confidence of their patients who were referred to surgeons, not necessarily the most competent, not those who offered the greatest possibility of the saving of life or the preservation of health, but to men who paid coin to get hold of their victims. By this practice the patients were robbed, while it penalised honesty in those who sat idly by rather than make shameful bargains, allowing less competent competitors to buy their practices. Finally, and perhaps worst of all, it led to many unnecessary operations with their attendant risk and expense. "In all it was a betrayal of trust, encouraged dishonesty, bred incompetency, and should, in short, be regarded as a crime." The indictment is not too severe for the offence—in fact, the professional degradation of "dichotomy" can hardly have required pointing out. What is needed is a remedy—viz., the public exposure of known offenders, and this is the course that is now being widely discussed and forcibly advocated. In Canada the practice of secret division of fees was stigmatised no less harshly some two years ago at the annual meeting of the Ontario Medical Association by Dr. Herbert A. Bruce, of Toronto. Dr. Bruce appeared to admit that the custom existed by the terms of reprobation which he considered it his duty to use. Enough words have been wasted in describing the professional enormity of the offence; we should now like to see some of the offenders named and shamed. Surely if the sin is so common many of the sinners must be known.

MEDICAL PROTECTION.

THE annual report of the London and Counties Protection Society, which will be presented to the annual meeting of the members on March 25th, discloses once more a record of steady growth and of increasing usefulness. Since the last annual meeting the society has lost its President, Sir Jonathan Hutchinson, who had filled that office during the whole 22 years of the society's existence. In his place Dr. G. A. Heron has been elected, and has resigned the treasurership in consequence, to which Mr. C. M. Fegen has been elected in his stead. The report contains cases illustrative of the defence work done on behalf of the members. Interesting as many of these cases are, there is a strong similarity between the events of one year and another; and they point very strongly once more the moral which impresses itself instantaneously on all who read them—namely, the imperative necessity of an organised and coöperative system of legal defence for the medical profession. With increasing experience of the new system inaugurated in 1911 the financial position of this society is growing rapidly stronger and more assured. It will be remembered that in that year the constitution of the society was altered in such a way as to give the council power to insure members up to an amount of £2000 in any one case and up to an aggregate of £22,000 for the whole society against costs and damages given against them. Previously the society had insured members only against the actual costs of their defence. It is evident from the financial statement that the increase of the subscription from 10*s*. to £1 per annum has so far been more than adequate to cover the extra risk insured; and the consequence is that the reserve funds of the society are accumulating rapidly. This is, of course, a source of great strength, and if the favourable experience of the society in respect of this part of its work continues it will be possible either to reduce the subscription which the members pay or to terminate the arrangement whereby the society reinsures with Lloyd's the whole of its annual risk of adverse verdicts beyond the first £2000, thus saving the annual premiums paid to cover this contingency. As previously, the society was able to recover a substantial proportion (nearly £900 out of £2300) of its law costs from defeated adversaries. The whole of the accounts and balance-sheets reveal a promising condition.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THE annual Congress of the Ophthalmological Society of the United Kingdom will be held, under the presidency of Mr. F. Richardson Cross, on Thursday, Friday, and Saturday, April 23rd, 24th, and 25th. The meetings will take place at the rooms of the Royal Society of Medicine, 1, Wimpole-street. On Thursday and Saturday mornings papers will be read from 10 A.M. till 1 P.M.; on Friday morning there will be a discussion, to be opened by Mr. E. Treacher Collins and Lieutenant-Colonel H. Herbert, on Post-operative Complications of Cataract Extraction. The annual business meeting will be held at 4 P.M. on Thursday, and at 5 P.M. on the same day Professor Uhthoff, of Breslau, will deliver the Bowman lecture on Experiences and Considerations on the Importance of Ophthalmology in Brain Surgery. Members of the society and their friends will dine together on Thursday evening. It has been arranged to hold a clinical meeting on Friday afternoon at the Central London Ophthalmic Hospital, Judd-street, W.C. During the congress a museum of objects of ophthalmic interest will be exhibited in the Bowman library at the Royal Society of Medicine. Communications respecting the scientific meetings should be addressed to Mr. G. Coats, 50, Queen Anne-street, W., respecting the museum to Mr. M. S. Mayou, 30, Cavendish-square, W., and respecting the dinner to Mr. Elmore Brewerton, 84, Wimpole-street, W.

NAVAL AND MILITARY MEDICINE AT THE ANTIPODES.

THE British public are not likely to forget the patriotism so vigorously demonstrated by our Colonial kinsmen during the war in South Africa, and it is not too much to say that our home military authorities found a good deal to learn from the capable and energetic methods of administration of the daughter States. In Australasia military training is now compulsory on all male citizens; from the age of 12 to 18 in cadet corps, and from 20 to 26 as citizen soldiers; in New Zealand the liability ceases at 25. Colonel James R. Purdy, Director of Medical Services, New Zealand, makes some very pertinent observations in a book which he has just published and in which an address delivered by him at the Australasian Medical Congress of 1911 is reproduced. Colonel Purdy urges that only the very best youth of the country should be taken for the army. There is no sense in training up a soldier to fight, and when the day of battle comes finding he is unable for physical reasons to do so. He has satisfied himself that only men of the very highest stamp of physical development can possibly stand the stress of modern methods of warfare; he considers that 40 per cent. of the youth of Australasia are for some cause or other unfit for efficient military service, but believes that in a few years, owing to the great improvement in physique effected by physical training, this percentage of unfitness will be very greatly reduced. He insists on the need for all-round military training for the army medical officer. For the actual treatment of sick and wounded in war civilian practitioners can always be obtained in large numbers, but for the administrative duties of the medical service long and varied training is necessary. Everyone knows and acknowledges the importance and the difficulties of the supply department in war; but it has only recently been realised that it is as difficult a problem to get a wounded man down to the base as to get a dead bullock up to the front. In war time it is not the performance of brilliant surgical operations, nor the successful treatment of serious diseases, that constitutes the chief value of the medical department; this depends on the prevention of disease, the rapid evacuation of sick and wounded, and the immediate treatment of minor ailments and injuries, so as to get the men back to the fighting line as quickly as possible. All this requires careful organisation, and Colonel Purdy mentions that New South Wales was the first country in the world to possess a properly organised, properly equipped medical force that was the admiration of all who saw it working in South Africa. In another paper Colonel Purdy, speaking from his experience in the South African war as to water supply in the field, states his firm opinion that the best and most rational system is to encourage every man to boil water for himself. If made into tea, as was done by the Australians in the war, the practice is both effectual and popular.

OCEANOGRAPHY AND PUBLIC HEALTH.

DURING some extensive ceanographic investigations, conducted mainly wi the object of localising distant icebergs by obser tions upon the electroconductivity of sea wate Dr. Myer Coplans, of Leeds University, happen by chance upon certain facts which may have an portant bearing on the health of passengers on lantic liners. By means of a compensated cond ivity salinometer of his own invention Dr. Copl s estimates the electric conductivity of the wate .8 feet below the surface, and is thus enabled t educe the degree of its salinity. Whether thi method will provide an infallible indication of e neighbourhood of icebergs is not yet proved; if it does, the travelling public will have much to thank Dr. Coplans for. While measuring the electro-conductivity of the water in the Gulf of St. Lawrence he found that near the mouth of each tributary river there is a rise in the salinity of the water. The water of Lake St. Peter and above was much more pregnant with saline products than that of the tributaries below Three Rivers and Quebec. This result he ascribes to the fact that the sewage from Ottawa and Montreal is largely deposited in the broad expanse of Lake St. Peter. The importance of this resides in the fact that the ocean-going steamships plying to and from Montreal take their fresh water from this place. If Dr. Coplans's contention that this water is in reality heavily contaminated with sewage is correct it is obviously a matter of the greatest importance that ship-owners should know this and act upon it. It is to be hoped that the authorities will take steps to ascertain whether this water is or is not bacterially infected, and that meanwhile it will be treated as under some suspicion. That this question of public health should arise out of researches undertaken for the detection of invisible icebergs at sea is only another instance of the unexpected gifts with which science proverbially rewards now and then her patient followers. The significance of these observations in the St. Lawrence circuits, the relative position of the essential parts at the moment of "break" will be easily understood. Below the jets are just leaving the primary contacts P P, and above the connector C is coming into line with the segments S S, allowing the secondary current to flow through the tube with practically no resistance. The scheme may be described, in other words, as a combined interrupter for the primary and secondary circuits, so set that as one circuit is closed the other is open.

The simplicity and efficiency of the device will be apparent to anyone acquainted with X ray apparatus, and the wonder is that it has not been put into use before. The scheme is similar in principle to the mica valve of Mr. Leslie Miller, but in this case the wide air-gap is preferable as a resistance to the mica disc, and it admits of more complete closure of the circuit at the moment of "break." My device has been patented for the benefit of Messrs. Newton and Wright, who have borne all the trouble and expense of developing the idea in practical form.[1]

The apparatus is mounted in a closed cabinet with the coil on top and the break and its attachments inside. Needless to say, any coil can be fitted by merely adapting the supports upon which it rests. The controls for the break are placed on one end of the cabinet, and a switch table of the simplest form attached by a flexible cable regulates the output of the coil. I believe the apparatus is one that will become popular among radiologists for such work as comes within the range of a coil and mercury break. It adds very little to the original cost of the X ray outfit, and this is very soon compensated for in the elimination of expense for valve tubes, and the longer life and steadier working of the X ray tubes. The greatest advantage is that results are more uniformly good in every way.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on March 12th, Sir RICKMAN GODLEE, the President, being in the chair.

A letter was read from Mr. Jonathan Hutchinson resigning his seat on the Council on account of pressure of hospital work.

The PRESIDENT stated that the vacancy thus occasioned would be filled at the annual meeting of Fellows in July.

A report was read from Mr. C. H. Golding-Bird on the proceedings of the Central Midwives Board during the past year. The best thanks of the Council were given to Mr. Golding-Bird for his services as the representative of the College on that Board, and he was re-elected for another year.

Sir Henry Morris was re-elected for one year as the representative of the College on the General Medical Council.

A letter was read from Mr. D'Arcy Power reporting his attendance before the Royal Commission on Venereal Diseases to give evidence as requested by the Council.

Fixity of Tenure of Medical Officers of Health.

The PRESIDENT stated that in accordance with the wish of the Council expressed at their last meeting he and the Vice-Presidents had received at the College some medical officers of health and had conferred with them on the subject of fixity of tenure. It was resolved to send the following letter to the President of the Local Government Board:—

"The attention of the Council of the Royal College of Surgeons has been directed to the desire of the medical officers of health under the Local Government Board to secure *fixity of tenure* and some definite system of *superannuation and pensions*, and they have been asked to support the endeavour which is now being made to bring this matter under the consideration of His Majesty's Government.

The Council are aware that this is no new question, and that it may be considered from more than one point of view. They have endeavoured to make themselves acquainted with the arguments put forward on both sides, and the facts as far as they have been able to ascertain them.

Though feeling a special interest in the diplomates of the College, the Council recognise that if the request cannot be supported on public grounds it is not worthy of consideration. It is to this point of view, therefore, that they have exclusively directed their attention.

It appears to the Council that there must be something wrong with a system under which the guardians of the public health hold appointments terminable at short notice under those whose interests are likely to be interfered with by the exposure of unsanitary conditions, or the suggestion of sanitary improvement. Yet this is what the present system in many districts involves. The Council have been impressed by the confession of men occupying important positions, that they are conscious of being influenced in the discharge of their duties by the fear of losing their appointments.

Moreover, it is often stated that the medical profession is becoming more and more alive to the unattractiveness of public health appointments, even those commanding good salaries where the tenure is insecure and there is no system of superannuation. It appears likely, therefore, that the quality of the applicants for them will deteriorate.

Considering the vital importance of the matter at stake the Council, whilst fully recognising the weight of the arguments adduced against the proposed change, which they have endeavoured to consider impartially, cannot think that they are strong enough to outweigh those in favour of the request of the medical officers of health.

The Council, therefore, feel that it would be for the advantage of the community if security of tenure with a corresponding system of superannuation were granted to medical officers of health under the Local Government Board, and they venture to express the hope that it may be possible for His Majesty's Ministers to give favourable consideration to the representations which are now being made to them on these questions."

The diploma of Member was conferred upon the following two gentlemen who have passed the requisite examinations and have now complied with the by-laws of the College: John Harold Cascaden, M.D. Toronto, Toronto University and London Hospital; and Thomas Trench Thompson, M.B., B.S. New Zealand, Otago University.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twenty-second meeting of the Royal Commission on Venereal Diseases evidence was given by Mr. D'Arcy Power, surgeon and lecturer on surgery at St. Bartholomew's Hospital, and one of the representatives before the Commission of the Royal College of Surgeons and the Royal Society of Medicine.

Mr. D'Arcy Power said that from the surgeon's point of view he looked upon gonorrhœa as the more serious disease for the individual and syphilis for the race. In general surgery the effects of gonorrhœa were far-reaching, and it was an error to teach that it was a local and curable disease. Syphilis seemed to Mr. Power to be even more dangerous to the State than to the individual. The expectation of life was materially shortened for a person who had been infected with syphilis; the immediate danger extended to the second generation, and the vitality of the stock seemed diminished for several generations. Syphilis gave surgery a large amount of work. It predisposed, Mr. Power thought, to cancer and tubercle. The particular danger of the disease lay in the fact that the subsequent effects bore no necessary relation to the severity of the initial lesions.

Mr. Power thought that a *diminution* in the incidence of syphilis would best be brought about by better instruction of the medical student, and that each general hospital ought to establish a special department under the control of the senior medical officer. The department should be chiefly an out-patients' clinic and should be held in the afternoon or in the evening. A few beds might be provided, but the essence of successful treatment in syphilis was early diagnosis and prolonged attendance. The department should be thoroughly equipped with a sufficient staff of pathologists and with the necessary remedies. The expense would no doubt be considerable, but Mr. Power thought that the State would be more than repaid. He believed that the establishment and use of such departments would gradually educate the public to appreciate the danger and thereby diminish the risk. Mr. Power did not think that any organised attempt to educate the public with regard to venereal diseases was desirable; he would rather trust to the gradual growth of education through the medical profession Mr. Power was not in favour of notification of venereal diseases, at any rate not for the present.

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[1] The apparatus is being demonstrated this evening (Friday, March 20th) at the Electrotherapeutic Section of the Royal Society of Medicine.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8620 births and 5338 deaths were registered during the week ended Saturday, March 14th. The annual rate of mortality in these towns, which had been 15 0, 15·1, and 15 8 per 1000 in the three preceding weeks, declined to 15 4 per 1000 in the week under notice. During the ten weeks of [illegible] death rate in these town [illegible] in London during the sa [illegible] the death rate last wee [illegible] 6·3 in Ilford, 7 4 in Leyton, 8 2 in Hornsey, and 8 4 in Eastbourne, to 21 4 in Reading, 22 0 in Stockton on-Tees, 22 1 in Oldham, 22 7 in Swansea, and 22 9 in South Shields

The 5338 deaths from all causes were 159 fewer than the [illegible] hich were [illegible] numbers [illegible] Of these [illegible] 113 from [illegible] om diph- [illegible] fever, but not one from small pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1 2 per 1000 in each of the two preceding weeks. The deaths attributed [illegible] 115, and 134 [illegible] o 143 last week, [illegible] f 2 1 in Oldham, [illegible] eaths referred to [illegible] 8 in the three [illegible] highest death [illegible] sbrough, 1 7 in [illegible] ey and in Cardiff, [illegible] fatal cases of [illegible] r 2 years), which [illegible] ling weeks, rose [illegible] registered in [illegible] Middlesbrough, [illegible] n Cardiff. The [illegible] had been 52, 72, and 60 in the three preceding weeks, rose to 67 last week, and included 15 in London and its suburban districts, 6 in Birmingham, 4 in Portsmouth, and 4 in Manchester. The deaths referred to scarlet fever, which had been 33, 34, and 34 in the three preceding weeks, were 31 last week, of which 6 occurred in Birmingham, 5 in Manchester, and 4 in Middlesbrough. The fatal cases of enteric fever, which had been 17, 8, and 20 in the three preceding weeks, declined to 13 last week, and included 2 in Liverpool, 2 in Salford, and 2 in Sheffield.

The number of scarlet fever patients under treatment in the London Fever and the Metropolitan Asylums Hospitals, which had steadily decreased from 3599 to 3307 in the six preceding weeks, had further declined to 3222 on Saturday last; 320 new cases were admitted during the week, against 351, 401, and 340 in the three preceding weeks These hospitals also contained on Saturday last 1318 cases of diphtheria, 339 of whooping-cough, 127 of measles, 80 of enteric fever, and 1 of small-pox. The 1240 deaths from all causes in London were 109 fewer than the number in the previous week, and were equal to an annual death-rate of 14 3 per 1000. The deaths referred to diseases of the respiratory system, which had been 245, 213, [illegible] to 223 last [illegible]

Of the 5338 deaths from all causes in the 97 towns, 188 were attributed to different forms of violence, and 390 were the subject of coroners' inquests. The causes of 36, or 0 7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, and in 73 other smaller towns. Of the 36 uncertified causes of death, 8 were registered in Birmingham, 8 in Liverpool, 3 in London, and 3 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In [illegible] tion [illegible] 1216 [illegible] week [illegible] mortality in these towns, which had been 16 5, 17 5, and 16 6 per 1000 in the three preceding weeks, rose to 17 9 per 1000 in the week under notice. During the ten weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 16 5, or 1 9 per 1000 above the corresponding rate in the 97 large English towns Among the several towns the death rate last week ranged from 6 8 in Hamilton, 9 4 in Falkirk, and 14 2 in Ayr, to 20 0 in Perth, 20 1 in Greenock, and 22 8 in Kirkcaldy.

The 787 deaths from all causes were 59 in excess of the number in the previous week, and included 77 which were referred to the principal epidemic diseases, against 98 and 73 in the two preceding weeks Of these 77 deaths, 34 resulted from measles, 14 from diphtheria, 10 from infantile diarrhœal diseases, 8 from scarlet fever, 8 from whooping cough, and 3 from enteric fever, but not one from small-pox The mean annual death rate from these diseases last week was equal to 1·8, against 1 3 per 1000 in the 97 large English towns The deaths attributed to measles, which had been 42, 48, and 36 in the three preceding weeks, were 34 last week; of this number, 24 occurred in Glasgow, 4 in Edinburgh, 2 in Paisley, and 2 in Leith. The deaths referred to diphtheria, which had been 14, 11, and 5 in the three preceding weeks, rose to 14 last week, and included 5 in Aberdeen, 3 in [illegible] ases of diarrhœa [illegible] which had been [illegible] s, declined to 10 last week, of which 3 were recorded in Dundee and 2 in Glasgow. The deaths attributed to scarlet fever, which had been 6, 13, and 7 in the three preceding weeks, were 8 last week, and included 4 belonging to Glasgow. The 8 deaths [illegible] were slightly in excess of the [illegible] the quarter, and were all [illegible] ital cases of enteric fever, [illegible] Edinburgh; a fatal case of [illegible] of the respiratory system, which had been 143, 116, and 126 in three preceding weeks, further rose to 137 in the week under notice; 24 deaths resulted from different forms of violence, against 15 and 32 in the two preceding weeks.

VITAL STATISTICS OF LONDON DURING 1913

IN the accompanying table statistics of sickness and mortality in the C [illegible] politan boroughs a [illegible] regard to the notifie [illegible] that the number of [illegible] or other of the ten [illegible] to an annual rate of [illegible] at 4,518,191 persons [illegible] preceding years the rates had been 6 6, 4 5, and 5 1 per 1000 respectively. Among the various boroughs the rates last year ranged from 4 4 in the City of Westminster, 4 4 in Hampstead, 4 8 in Stoke Newington and in Holborn, and 4 9 in Chelsea, to 8 2 in Poplar and in Battersea, 9 1 in Bermondsey, 9 2 in Woolwich, and 10 1 in Deptford. The prevalence of scarlet fever showed a large increase as compared with that in other recent years, 17,552 cases being [illegible] ear, against [illegible]

Deputy Assistant Director of Medical Services (*Mobilisation Branch*) to the *Fifth Mhow Division*. Captain J. E. H. Gatt has been granted leave of absence home from India for one year on medical certificate. Captain N. D. Walker has joined for duty at Quetta Cantonment.

Lieutenant R. Davidson has embarked for India. Lieutenant J. M. Elliott has taken up duty at the Station Hospital, Rawal Pindi Cantonment. Lieutenant E. G. H. Cowen has been transferred from Lucknow Cantonment to Agra. Lieutenant L. T. Poole has joined at York. Lieutenant I. R. Hudleston has embarked for a tour of service in Jamaica. Lieutenant J. E. Hepper has been transferred from the Military Flying School at Upavon, Salisbury Plain, to Oxford. Lieutenant A. G. Biggam has relinquished duty at York. Lieutenant H. C. Todd has been transferred from Bangalore to Secunderabad.

Indian Medical Service.

Surgeon-General A. M. Crofts, C.I.E., Deputy Director of Medical Services to the Second (Rawal Pindi) Division of the Northern Army, has been granted general leave of absence for three months and ten days. Colonel R. Bradley Roe has taken up duty as officiating Assistant Director of Medical Services at Lahore.

Lieutenant-Colonel C. H. Bowle Evans has arrived home on leave of absence from India. Lieutenant-Colonel H. Pilgrim has been granted an extension of service. Lieutenant-Colonel J. L. Jones has joined at Bombay. Lieutenant-Colonel S. H. Henderson has been granted an extension of leave of absence home from India. Lieutenant-Colonel A. W. T. Buist has taken over civil medical charge at Campbellpore. Lieutenant-Colonel G. F. W. Ewens has been appointed Superintendent of the Punjab Lunatic Asylum at Lahore.

Major H. Innes, civil surgeon, Khasi and Jaintia Hill District, has been granted combined leave of absence home from India for one year. Major W. D. A. Keys has embarked for India. Major C. F. Marr has been selected as Medical Storekeeper to Government at Lahore, vice Major W. G. Richards, who has taken up duty at Madras.

Captain K. K. Mukerji has been selected for appointment as officiating Deputy Sanitary Commissioner, Burdwan Circle, Bengal. Captain R. F. Steel has been selected for permanent employment under the Government of Bombay. The services of Captain C. Holroyd have been placed at the disposal of the Government of Bengal as Superintendent of the Central Prison at Bareilly. Captain R. H. Bott has been selected for appointment as officiating Professor of Surgery at the Government Medical College, Lahore, *pro. tem.* Captain F. G. Stiles Webb has joined the North-West Frontier Province. The services of Captain M. S. Irani have been placed permanently at the disposal of the Government of Bombay. Captain N. T. Wells has handed over charge as Deputy Sanitary Commissioner of the Punjab on relief by Major E. L. Perry. Captain E. C. Hodgson has been appointed on special duty in connexion with the prevention of malaria at Madras. Captain J. D. Jones has taken up permanent duty under the Government of Bombay. Captain A. W. Greig has taken over charge as Superintendent at the Central Jail, Montgomery. Captain T. W. Harley has been appointed Superintendent of the Jail at Madura, Madras.

Special Reserve of Officers.

Royal Army Medical Corps.

Lieutenant George H. Stevenson to be Captain (dated March 1st, 1914).

Cadet Colour-Sergeant Evan Davies, from the Birmingham University Contingent, Officers Training Corps, to be Lieutenant, on probation (dated Feb. 19th, 1914).

Territorial Force.

Royal Army Medical Corps.

Notts and Derby Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain Alexander R. Tweedie to be Major (dated March 14th, 1914).

Yorkshire Mounted Brigade Field Ambulance, Royal Army Medical Corps: John Downie to be Lieutenant (dated Jan. 24th, 1914). Lieutenant Thomas E. Lister resigns his commission (dated March 14th, 1914). Edward Douglas Ellis to be Lieutenant (dated March 14th, 1914).

5th London Field Ambulance, Royal Army Medical Corps: William Bertram Hill to be Lieutenant (dated Feb. 17th, 1914).

2nd Lowland Field Ambulance, Royal Army Medical Corps: William Hislop Manson to be Lieutenant (dated Feb. 17th, 1914).

Northumbrian Clearing Hospital, Royal Army Medical Corps: Captain William Thomas Harkness, from the 1st Northumbrian Field Ambulance, Royal Army Medical Corps, to be Captain (dated March 14th, 1914).

Attached to Units other than Medical Units.—Captain Charles R. Browne to be Major (dated Jan. 5th, 1914).

For Attachment to Units other than Medical Units.—Kenneth Douglas Wilkinson (late Cadet Sergeant, Birmingham University Contingent, Senior Division, Officers Training Corps) to be Lieutenant (dated Jan. 23rd, 1914). James Anderson to be Lieutenant (dated Jan. 31st, 1914). Lieutenant Cecil William Rowntree, from the 3rd London (City of London) Field Ambulance, Royal Army Medical Corps, to be Lieutenant (dated Feb. 18th, 1914).

Colonial Medical Services.

West African Medical Staff.—Mr. A. Hipwell, medical officer (Nigeria), and Dr. F. G. Thompson, medical officer (Gold Coast), have resigned. Dr. G. C. Walker, sanitary officer (Gold Coast), has retired on pension. The following gentlemen have been selected for appointment to the staff: Dr. W. H. Kauntze (Nigeria), Dr. A. R. Paterson (Nigeria), Dr. R. G. Ball (Gold Coast), Dr. E. J. H. Garstin (Nigeria), Dr. P. A. Clearkin (Sierra Leone), Dr. J. Mc.C. Clark (Sierra Leone), and Dr. J. Atkinson (Gold Coast).

Other Colonies and Protectorates.—Mr. J. T. Duncan has been selected for appointment as a Medical Officer in the Straits Settlements; Dr. G. V. Fiddian has been selected for appointment as an Assistant Medical Officer in British Guiana; Dr. J. M. Mackinnon has been selected for appointment as a Temporary Medical Officer in the East Africa Protectorate; Mr. B. C. N. O'Reilly and Mr. E. E. Wilbe have been selected for appointment as Medical Officers in the Gilbert and Ellice Islands; Dr. S. D. Stewart has been selected for appointment as a Supernumerary Medical Officer, Trinidad; Dr. G. H. Lewis and Dr. C. W. L. Cassel have been selected for appointment as Assistant Medical Officers, British Honduras; and Mr. H. B. Dodds has been selected for appointment as a Medical Officer in the Straits Settlements.

Journal of the Royal Army Medical Corps.

Among the contents of this journal for March is a joint contribution by Lieutenant-Colonel T. W. Gibbard and Major L. W. Harrison on the Treatment of Syphilis with Salvarsan, a paper read at the International Medical Congress, 1913. From the standpoint of the treatment of syphilis in the Army the authors believe that the best results will be obtained by a course of three salvarsan and ten mercurial injections prolonged over nine or ten weeks, and that the routine use of the treatment is likely to effect an annual saving of 70,000 to 80,000 hospital days. The remedy, however, must be entrusted only to those who are thoroughly acquainted with its indications and contra indications and the technique of its administration. Colonel C. Birt discusses the best method of staining treponema pallidum. In an article on the wounding effects of the Turkish sharp-pointed bullet Major E. T. F. Birrell shows that the experiences of the Balkan war, 1912-13, do not altogether bear out the general impression that the wounding power of the sharp-pointed bullet is of greater severity than that of the ogival-tipped bullet. Polar exploration is a topic of much interest at the present moment, and the report of a lecture by Surgeon E. L. Atkinson, who, it will be remembered, was a member of the British Antarctic Expedition, 1910-13, on Antarctic Experiences will be read with much pleasure by those who had not the privilege of hearing the experiences at first hand. The lecturer deals with snow-blindness and its prevention, frost bite, the hygiene of the hut, the health of the explorers, and with sledging and its effects. An article on Solutions, by Colonel R. H. Firth, supplements a previous article by the same writer on Colloids.

The Glamorgan Red Cross Gazette.

The second issue of this excellent little publication, which is to be published three times a year, is dated February, 1914, and contains among other interesting matter the second part of Major R. J. Simons's (R.A.M.C., T.F.) article on Wounds and How they Heal. The use of the second personal pronoun when an impersonal statement is intended is an unfortunate mistake likely to cause an argument to appear personal, but a writer in the *Gazette* gives an instance where the second person has been substituted for the first with ludicrous effect. An examiner asked a young lady what she would do for a bad cold in the head. The examinee replied: "I would put my feet in a bath of hot water and mustard and keep them there until you (!) were in a profuse perspiration." The *Gazette* is published by E. J. Llewellin, Cadoxton-Barry, Cardiff. Price 6*d*. a year.

Medical Governors of Gambia.

Mr. W. Telfer Campbell, colonial secretary, the Gambia, writes to the *Times* asking the relatives or others of certain governors and administrators of the colony of Gambia for portraits of these officials as a gift or on loan for copying in order that the collection of portraits of ex-officials in the council chamber at Bathurst may be completed. Among the desired portraits are those of Surgeon-Major Samuel Row, C.M.G., and Brigade-Surgeon Valesius S. Gouldsbury, C.M.G. Communications should be made to Mr. Campbell, care of the Crown Agents, Whitehall Gardens, London, S.W.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

SHEFFIELD.

Post-graduate Course on Syphilis.

DURING this winter the number of men taking out the general clinical post-graduate course has far exceeded that of any previous year, and indicates the desirability of increasing their opportunities for such work. The Faculty of Medicine has therefore decided to give a short course on the etiology, pathology, and treatment of syphilis during April and May. It will consist of about ten lectures, given twice weekly, and will include demonstrations and practical classes. It is intended to deal chiefly with recent work on the spirochæta, Wassermann's reaction, and treatment by salvarsan.

Evening Clinics for Venereal Diseases.

The Royal Infirmary has very wisely taken up the question of offering special facilities for the treatment of venereal diseases. For this purpose an evening out-patient clinic for venereal diseases has been started by members of the staff, and promises to supply a long-felt want. The attendances have proved distinctly encouraging. The board and staff of the Royal Infirmary are to be congratulated on their enterprise and initiative in this important matter, which should be widely imitated in other places. The clinic is at present limited to male patients, who are admitted without any recommendation.

Appeal for Radium.

Following a letter to the local press a few weeks ago, signed by representatives of the staffs of all the voluntary hospitals in the city, a circular appeal has been issued by a committee of the staffs, of which Professor Sinclair White, senior surgeon to the Royal Infirmary, is chairman, for £10,000 to purchase radium. The appeal has already met with considerable success, more than half the sum having been promised. There is no doubt that within a short time the rest of the amount asked for will be forthcoming.

Edgar Allen Institute.

Coinciding with the appeal for radium, the Edgar Allen Institute, to which reference was made in your columns last week, has issued an appeal for subscriptions to enable it to continue its work in medico-mechanical treatment. The generous founder, Mr. Edgar Allen, has not only equipped it, but has been responsible for its upkeep for the last three years. He now feels that it has justified its foundation, and that he should receive some assistance from his fellow citizens in maintaining it. The response to the appeal is making satisfactory progress and already more than half the required amount has been promised. There is no doubt that Sheffield is fortunate in having such an addition to its means for hastening recovery in convalescent patients, and it would be a misfortune were it to be allowed to decline or even close for lack of support. A suggestion has been made that this institute should become the place where the radium is kept. From its accessible position and the constitution of its governing body, representative of the leading citizens and of the medical profession and hospitals generally, it corresponds exactly with the requirements of a radium institute. It is to be hoped that some arrangement of this kind may be come to so as to save the cost of running two institutes in the city—the upkeep of both of which would eventually fall on the generously disposed citizens.

The Pathological Section of the Medico-Chirurgical Society.

At a recent meeting of the Pathological Section of the Medico-Chirurgical Society Dr. F. W. Mott, F.R.S., gave an interesting address on Parenchymatous Syphilis before a large and appreciative audience. This is the first occasion upon which the recently formed Section of Pathology has entertained a distinguished visitor, and the innovation proved so successful that it is to be hoped it may be made an annual event. The Pathological Section of the Medico-Chirurgical Society has so thoroughly justified its existence that a movement is now on foot to form a Clinical Section on somewhat similar lines.

Hospital for Sick Children.

A vacancy on the honorary staff of the Children's Hospital caused by the resignation of Dr. E. W. Adams, has resulted in the election of Dr. John Stokes. Dr. Adams, who is leaving Sheffield to take up his new duties as a medical inspector under the National Insurance Act, has also resigned the post of lecturer on pharmacology and therapeutics at the University. His many friends will wish him every success in his new career.

March 17th.

BIRMINGHAM.

Birmingham General Dispensary.

THE 120th annual report states that the total ordinary receipts were £10,135 18*s.* 7*d.* and the special receipts £12,564. There was a decrease in the amount received for subscriptions and supernumerary notes of £1275. The expenditure increased by £221. The total number of patients admitted during the year by ticket was 49,365, a decrease of 13,155. The average cost per patient has been 4*s.* 9½*d.*, an increase of 1*s.* 1*d.*, an increase partly due to the tuberculosis department. The number of new patients in the tuberculosis department was 760, which does not include contacts examined and found not to be tuberculous. Of the total only 113 were insured under the Act. The attendances of patients during the year had totalled 21,329, being an average of 70 per working day.

Hospital Saturday Fund.

The annual meeting was presided over recently by the Lord Mayor. Since the inauguration of the Fund in 1873 over half a million pounds have been collected. In proposing the adoption of the report the Lord Mayor made interesting comparisons with similar funds in other cities. In spite of the Insurance Act a new record has been established for the Birmingham Fund, as for the first time over £23,000 has been collected. In London the collection amounted to £50,419, and there had been a drop of £4658; at Manchester in 1912 there was a decrease of £382 and a further drop last year. At Liverpool in 1912 they lost £2132, but last year there was a fall of only £1. At Leeds in 1912 they went back £836, and last year £206. Leicester reported an increase of £498 to a total of £15,632. His lordship called attention to the fact that there were 500 firms who were not subscribing to the Fund. Of these, about half fell out over the Insurance Act, but some of these were returning. The organisation was being worked very cheaply. The report showed that the percentage on collection was 5·86*d*. There, again, Birmingham was beaten by Leicester, whose percentage was 4¼*d*. The figures for the other big towns were: London, 9½*d*. per cent.; Manchester, 11½*d*. per cent.; Liverpool, 9½*d*. per cent.; and Leeds, 6½*d*. per cent.

After-care of Tuberculous Subjects.

At a conference held between representatives of the health committee of the city council, the board of guardians, the Insurance Committees, and the City Aid Society to consider the difficulty of dealing with phthisical cases, it was resolved that the City Aid Society be asked to form a special committee for the purpose of coordinating action by the various authorities and societies. A circular letter has been sent to all institutions, hospitals, and organisations which deal with consumptives, and to all medical men in the city, inviting them to send on a form particulars of any case which comes to their notice and requires additional help. It is hoped in this way to obtain fairly complete information as to the number of such cases and the amount and kind of additional help specially needed.

The United Kingdom Police Surgeons' Association.

The annual meeting of this association was held in the Medical Institute, Birmingham, on March 14th, the President, Professor J. T. J. Morrison, in the chair. The council in the annual report, and in repetition of a previously expressed opinion, stated that the value of the association lay in the possibility so afforded for ascertaining corporate needs and taking combined action thereon. The good offices of the British Medical Association in helping to advance the inadequate scale of capitation payments in several districts were cordially acknowledged, while it was noted that a knowledge of "first aid" is now generally regarded as part of the equipment of the police force, and members were advised to bring to the notice of local authorities the practice of paying police surgeons for the necessary instruction in ambulance work. The report having been received and adopted, the following officers were elected for the ensuing year:—President: Professor J. T. J. Morrison, Birmingham. Vice-Presidents: Sir Henry Littlejohn, Edinburgh; Dr. H. W. Oulton, Dublin; Mr. F. W. Lowndes, Liverpool; and Mr. H. Nelson Hardy, London. Treasurer: Mr. J. Paul Bush, Bristol. Honorary Secretaries: Dr. Hugh F. Powell, Cheltenham; Dr. W. Hartley Bunting, Birmingham. Council: Dr. H. Barnes, Carlisle; Dr. J. F. Craig, Birmingham; Mr. G. H. Heald, Leeds; Mr. W. J. Heslop, Manchester; Dr. T. F. Higgs, Dudley; Dr. C. E. Hoar, Maidstone; Dr. L. Maybury, Portsmouth; Dr. H. B. W. Plummer, West Bromwich; Mr. W. Powell, Cheltenham; Mr. W. M. Roocroft, Wigan; Mr. W. Roughton, London; and Dr. J. Young, Bristol.

March 17th.

BRISTOL AND WESTERN COUNTIES.

Bristol General Hospital: Workmen's Subscriptions.

A FURTHER step in the campaign described in the issue of Feb. 28th (p. 638), by which a committee claiming to represent the working men of Bristol seeks to gain a footing in the governing bodies of the Bristol hospitals, was completed this week at the annual meeting of the General Hospital, when Mr. Herbert M. Baker, chairman of the committee, made a very interesting statement. Beginning by an acceptance of the claim of the working classes to be represented on the hospital committee—a claim based on their generous subscriptions—he pointed out that about 12½ per cen of the hospital expenses were met by those subscriptions. The hospital committee had for som time past been considering the advisability o establishing direct representation of the workin men, but had been hindered by difficulties in connexion with the fixing of a franchise. They had however, invited 21 firms whose employee (numbering 22,000) subscribed £20 and upwards t the hospital to send representatives, chosen by th workpeople, to meet them. These representative had constituted themselves into a standin advisory committee and had elected one of thei number to act as their representative on the hospital committee. By this means the hospital ha secured for the working man a method of direc representation on the committee, while a the same time avoiding concessions to the sel appointed "representatives" of labour. Th annual report of the charity was read, and contained many interesting items, of which the ne pathological department, the change in th presidency and in the secretaryship, and matter relating to the new wing, have already been full mentioned in these columns. The committee hope t open the new wing this summer. During 1913 the in-patients reached a record total of 3056, an increas of 216 on the previous year. The average stay i hospital was 21 days. Out-patients numbered 33,925 a total less than that of 1912 by 4405; this drop i doubtless due to the National Insurance Act, an is welcomed by the committee as tending to intensif the consultative nature of the out-patient department. The ordinary income amounted to £12,697 an increase of over £1000; the ordinary expenditure showed an increase of £336 only, and totalle £16,300. Allusion is, of course, made to the legac of £25,000 in securities left to the hospital by it late president, Mr. Joseph Storrs Fry. The Lor Mayor, who was in the chair, spoke feelingly of th incalculable loss to the hospital and the cit generally in the death of Mr. Fry, but congratulate the institution on securing so worthy a successor i Mr. George A. Wills.

Bristol Insurance Committee.

At the last meeting of this committee the chai man gave an interesting *résumé* of the year's wor so far as medical benefit was concerned. Abou 80,000 insured persons had been treated by th panel doctors, who had issued nearly 400,000 prescriptions. A fact of significance was that at th end of the 12 months only about 600 of the insure had asked to change their medical man. This, a the chairman remarked, was a vindication of th policy of free choice of doctor. The chemist account amounted to £12,800. It was reported tha the medical referee was being temporarily re munerated by the practitioners themselves unti some permanent basis had been decided upon. sum not exceeding £100 was appropriated for healt lectures.

Children's Hospital, Bristol.

The annual report of this hospital showed tha 4873 out-patients and 978 in-patients had bee treated during 1913. The income amounted t £4602 and the expenditure to £5241. Representatives of the employees of some of the largest fim spoke in warm appreciation of the hospital's valu

Lord Mayor of Bristol's Hospital Sunday Fund.

At the first distribution of this fund £1600 wa divided between the medical charities of the cit

The total sum collected to date is £1887, or about £70 less than last year at the corresponding date.

Plymouth Tuberculosis Scheme.

The Plymouth sanitary committee at their last meeting approved a scheme for the establishment of a tuberculosis dispensary, the erection of pavilions for 30 patients on the site of the borough hospital, and the provision of 44 beds at the Devon and Cornwall Sanatorium, Didworthy, or elsewhere. The scheme will involve an annual charge on the rates of about £1623.

Health of Falmouth.

The medical officer of health for Falmouth (Dr. A. Gregor), in his annual report for 1913, states that the death-rate was 13·15 per 1000. The death-rate from phthisis and other tuberculous diseases was 0·52 per 1000. The birth-rate was 17·46 per 1000.

A New Workhouse Infirmary for St. Austell, Cornwall.

At a meeting of the St. Austell board of guardians, held on March 6th, a tender for £3667 was accepted for the erection of a new workhouse infirmary.

Miners' Phthisis in Cornwall.

The medical officer of health for Camborne rural district (Dr. A. Bowhay), in his annual report for 1913, states that during the past 14 years 25 per cent. of the deaths from miners' phthisis had been in men who had previously worked in African mines.

March 17th.

SCOTLAND.

Exemptions from Vaccination in Scotland.

The Secretary for Scotland has given figures showing the number of exemptions from vaccination in Scotland from the passing of the Vaccination (Scotland) Act, 1907, which authorised the making of statutory declarations of conscientious objection to vaccination in Scotland. The numbers of these statutory declarations made in respect of births registered in subsequent years were as follows: 1907, 7258; 1908, 15,846; 1909, 22,746; 1910, 26,954; 1911, 29,582; 1912, 32,863. The figures for 1911 and 1912 have not yet been published, and are subject to revision. This tremendous increase of unvaccinated persons speaks for itself and must necessarily occasion disquietude to the public health authorities.

Treatment of Lead Poisoning.

A very interesting paper on the Electrolytic Treatment of Lead Poisoning was read on March 2nd before the Royal Society of Edinburgh by Sir Thomas Oliver and Mr. T. M. Clague. The authors gave an explanation of the new method of treatment which had been devised by them. This is known as the double electric bath treatment, which is being employed with remarkable success in lead works. The men immerse their feet in a bath of water in which a grid of aluminium is fixed. The hands are placed in a similar bath, also containing an aluminium grid, and the current from an eight-cell accumulator is gradually turned on. The effect of the current is to ionise the lead in the tissues of the person treated, and thus to drive it from one pole to the other, with the result that the person suffering from lead poisoning shows no signs of it after a week or two, while a bath once or twice a week prevents the lead from settling in the system.

Small-pox in Aberdeen.

One of the four cases of small-pox in Aberdeen has proved fatal, the victim being the father of the family who have been attacked, a man of 46, and a mason by trade. So far no fresh cases have been reported.

Dispensaries Closed in Dundee.

At the last quarterly meeting of the Dundee Royal Infirmary it was decided to close the last two remaining dispensaries owned by the infirmary in the city, owing to the small number of patients attending in consequence of the working of the Insurance Act. Arrangements have been made for patients to be seen in the infirmary out-patient room.

Dental Treatment for Children.

At a recent meeting of the Kincardineshire secondary education committee a report was submitted in regard to the proposed dental treatment under the scheme of medical inspection of school children. It was thereupon agreed to engage the services of a dentist at a fee of 7*s.* per case treated. It was estimated that such a scheme would cost £131 per annum.

Aberdeen Insurance Committee: Publication of Doctors' List.

At a meeting of the Medical Benefits Subcommittee of the Aberdeen Burgh Insurance Committee, held on the 9th inst., a letter was read from the Local Medical Committee complaining of the publication of a list of Aberdeen panel doctors, showing the number of patients on each doctor's panel. The committee replied that the list was not officially supplied, and that the publication of it was unauthorised and was regretted by the committee. It is understood that the publication of this list has given rise to considerable indignation among the medical men upon the panel in Aberdeen.

Glasgow Maternity and Women's Hospital.

His Majesty has graciously granted permission for the inclusion in the title of this institution of the word "Royal."

March 17th.

IRELAND.

Radium Institute for Dublin.

THE following committee has been appointed by the council of the Royal Dublin Society to take entire charge of the Radium Institute: Sir Howard Grubb, Professor John Joly, Professor J. A. M'Clelland, Professor J. Mallet Purser, Professor A. Francis Dixon, Dr. W. E. Adeney, and Professor E. J. McWeeney. It is estimated that at least half a gramme of radium will be required, which at the present price will cost from £9000 to £10,000. The Royal Dublin Society has voted £1000, and Lord Iveagh has given an equal sum. The radium is to be kept permanently in the chemical laboratory of the society, the emanation derived being available for therapeutic uses and research by qualified medical men. Medical men receiving the emanation for hospitals are required to present confidential reports as to the results obtained. The emanation supplied for use in a hospital shall not be applied to any but the specified case or cases without the consent of the committee. The charge for emanation will be based on the number of estimated millicuries at the time notified to the purchaser for the removal of the tube from the society's premises.

Civic Survey of Dublin.

In his note added to the recent report of the Departmental Committee on Housing Conditions in Dublin Mr. J. F. MacCabe urged that a civic survey of Dublin should be undertaken before any further housing schemes were adopted. Such a survey would include the consideration of the topography of the city and its surroundings, its means of communication, and industries, as well as the movements, needs, and occupations of the population. It was announced last week that the Local Government Board intends to undertake such a survey without delay.

The Belfast Tuberculosis Scheme.

Dr. J. M. McCloy and Dr. James Shaw have been appointed by the city corporation of Belfast full-time assistant tuberculosis medical officers, the former at £350 and the latter at £250 per annum. Dr. A. Trimble, chief tuberculosis medical officer, is being paid £600 a year.

Scarlet Fever in Newtownards.

At the monthly meeting of the Newtownards board of guardians held on March 14th it was decided to convert the room above the present board room into a temporary ward, owing to the very large number of cases of scarlet fever now being treated in the present fever hospital. Many of the cases have been sent from Comber, where the disease has been extensively epidemic.

Benn Ulster Hospital.

From the report presented to the friends and supporters of the Ulster Hospital for the Eye, Ear, and Throat (established by the late Mr. Benn) at the forty-third annual meeting, held in the institution, Clifton-street, Belfast, on March 11th, it appears that during 1913 there were 2634 new patients, including 424 intern cases. Financially, at the beginning of the year the balance due to the bank was £66 12*s.* 11*d.*, while at the end of the 12 months this was reduced to £16 1*s.* 2*d.*

March 17th.

PARIS.

The "Metro" and Tuberculosis.

The Extra Parliamentary Commission on Tuberculosis, composed of senators, deputies, municipal councillors, and medical men, points out that one of the principal sources of danger as regards the propagation of tuberculosis arises from public vehicles, cabs, motor-buses, &c. The carriages of the metropolitan underground railway appear to constitute the most dangerous focus; for while motor-buses and cabs can be aired and disinfected, the carriages of the "Metro" on most of the lines are never exposed to either light or air, the depôts being all underground. The platforms of the stations are often washed, but the carriages receive only a sweeping. Although spitting in these vehicles is forbidden, the mud brought in on the feet of travellers, the dust, the germs on clothes, are all sufficient causes of infection demanding serious attention. It cannot be absolutely proved that there has been any instance of the propagation of tuberculosis among passengers during the brief period they are in the carriages, but that it is not unlikely is shown by the analogous cases of measles, scarlet fever, and diphtheria which have been contracted on lines having stations close to children's hospitals, whither mothers take their children for consultation. The same has been observed on the motor-bus routes leading to these same hospitals. The medical service of the Metropolitan Company, however, has been struck with the increase in the number of cases of tuberculosis among their employees, especially those who spend the whole day in the carriages and close the doors after each stop. The second-class carriages are frequented, especially at certain times of the day, by a working-class population utterly disregardful of hygienic precautions. These carriages being tightly closed the odour and foul air become very oppressive. To these sources of infection must be added the fact that employees pass nearly the entire day underground, deprived of fresh air and sunlight, without physical exercise, and thus their bodily resistance is greatly lessened. The Commission urges the study of a more efficacious method of airing the carriages and the tunnel itself than that by ventilators at intervals which, by stirring up the air, merely set the dust in motion, with results more distressing than useful. Finally, say the Commissioners, the carriages must be frequently disinfected, and the employees permitted some time off during the day that they may avoid the dangers of a continued sojourn underground.

The Lack of Army Doctors.

The sanitary condition of the army, particularly in the eastern region, where the number of garrisons was abruptly doubled last October, has caused considerable alarm, which has been the subject of much discussion in the Chamber of Deputies. A Commission of Inquiry has visited the new barracks, for the most part hastily constructed, and calls for certain necessary improvements. The particularly rainy winter, the overfeeding of young recruits, and the defective hygienic conditions had led to a recrudescence of the morbidity, which, however, has now completely returned to normal. But a disquieting condition brought to light during the inquiries is the insufficient number of military medical officers, which has been so serious that to fill the vacant posts the Minister of War has had to appeal to the civil doctors belonging to the army reserve and the territorial forces, to retired military medical officers, and even to students of medicine near the close of their curriculum.

Emergency Surgery by Military Officers.

A medical officer from a station in the south of Algeria went afield to perform an amputation at the thigh in the case of a soldier suffering from a serious wound. As the wounded man was cured the commandant of the Algerian army wrote to the medical officer congratulating him on the brilliant result, but requiring the establishment of a course of elementary instruction for officers in the field to enable them to give such urgent aid to their men as appeared essential pending the arrival of the medical officer or the removal of the patient to the nearest medical post, either of which in war time might take up a great deal of time. This note has called forth serious protests from a French journal of military medicine which urges the incompetence of officers to give the needful intelligent medical attention, and the likelihood of danger from their inopportune intervention without a proper diagnosis, which in the event of unfortunate consequences might involve the State in serious pecuniary responsibility.

The Double Xiphopagous Monster.

The separation of double xiphopagus, to which reference was made in my letter in The Lancet of

Jan. 17th, has been necessitated by the fact that one of the children became seriously ill, and, indeed, died two days after the operation. As was suspected, it was found that the fleshy bridge contained a tongue of hepatic tissue common to both organisms. This was ligated without difficulty on both sides. The necropsy on the child that died showed it to be affected with athrepsia, so that it probably lived at the expense of its companion, and would have died sooner but for this union. The surviving child is in excellent health. The death of one of the organisms of a xiphopagus has been frequently noted, separation having been effected on account of ill-health of one of them.

March 16th.

ITALY.

The Hospital Question in Rome.

THE popular agitation about the hospitals of Rome culminated on March 9th in a general strike which lasted for 36 hours in the capital, and was the occasion of scenes of grave disorder and some violence. In a letter two years ago I explained the causes of the crisis in the finances of the Roman hospitals[1] and the appointment of a Royal Commission to re-establish the hospitals on a sound financial basis. The economies practised have proved very unpopular among the people of Rome. The closing of the hospital of San Giacomo and certain accident and emergency stations, "posti di pronto soccorso," has transferred the bulk of the hospital work to the newly erected but inconveniently distant Policlinico outside the walls, with the assistance of four emergency stations within the city. The admission of the poor without payment has been as far as possible limited to those able to produce the official certificate of poverty, and the free distribution of medicines has been curtailed with the utmost strictness. The number of hospital attendants has been reduced and their salaries have been lowered. This last reform led to the explosion of the popular resentment, for the Camera del Lavoro espoused the cause of the *infermieri* and enlisted in their favour the sympathies of the workmen of Rome. But the demonstration of March 9th embraced all parties, when over 100,000 people assembled in the Piazza del Popolo. The commission despatched by the meeting to convey their wishes found the Government in a yielding mood. The hospital of San Giacomo was reopened at 5 o'clock in the afternoon for the treatment of emergencies, with three beds for men and two for women, and six doctors on the staff. Promises were also made that the difficulties in the way of admission to hospital should be lessened and that the rights of the hospital attendants should be considered.

Presentation to Dr. A. R. Coldstream, of Florence.

On March 9th, at the Villa Trollope, Florence, Dr. and Mrs. A. R. Coldstream were the recipients of a presentation from patients and friends of a silver vase, designed and wrought by Mgr. Durst, of the Casa Giudi, and of a cheque for £285, on the occasion of Dr. Coldstream's retirement after more than 30 years' practice in Florence. A large company were assembled for the presentation, which was made by the chairman of the committee responsible for getting up the testimonial, the Rev. Harbut Tanner, who in a felicitous speech recalled the work done in many fields of activity by Dr. and Mrs. Coldstream, and bore witness to the value of their influence upon the life of the Anglo-American community in Florence. Dr. Coldstream, with a speech of anecdote and reminiscence, thanked the company on behalf of himself and Mrs. Coldstream, and a few words from Canon A. A. Knollys brought this *riunione simpatica* to a close.

March 14th.

VIENNA.

Remarkable Increase in the Number of Medical Students.

THE Medical Council of Vienna has issued to all the other Austrian medical councils a circular on the subject of the remarkable increase in the number of students of medicine, as manifested by the fact that there have been 630 new matriculations in the medical faculty for the winter term 1913–14. More students than at any former period are now coming to the University of Vienna from all parts of the Austrian empire and South-Eastern Europe, so that the scientific institutes of the faculty of medicine in this city are unable to deal with the numbers. The Medical Council at length decided to take some steps in the direction of checking this undue multiplication of medical men, and is now seeking information as to the number of practitioners in the district of each Austrian medical council, the number of deaths amongst them, the proportion of them to the population in the various districts, and the number of practitioners required to give the population the benefit of having everywhere an opportunity of consulting properly qualified advisers; other inquiries contained in the circular have reference to the rate of remuneration and the total income of practitioners in various districts. When the replies are received they will be summarised, and the necessary information as regards the prospects of a medical career will be supplied to the schools and colleges. According to all present appearances it is almost certain that the result of this inquiry will be a recommendation that the number of young men taking up the study of medicine should be restricted, and that most of those whose thoughts have turned in that direction should be advised to seek some other vocation.

The Treatment of Septicæmia with the Silver Compound of Methylene Blue.

For some time investigations have been in progress in this city with respect to the treatment of septic conditions with the substance known as methylene blue and its compounds, the supposition being that the affinity of this dye for the pathogenic micro-organisms would render the latter innocuous. At a recent meeting of the Medical Society of Vienna Dr. Arnstein showed two cases treated on these lines. One of them was a woman of 35 years, who after a premature delivery without medical aid developed puerperal sepsis and was brought to the hospital suffering from an occasional rigor, endocardial symptoms, and parametritis complicated with profound anæmia and great weakness. An intravenous injection of 2 decigrammes (3 grains) of the silver compound of methylene blue lowered the temperature a little, and another injection of the same strength on the following day was followed by a fall of the temperature to normal, accompanied by a rapid cessation of all septic symptoms. The other patient was a girl, aged 17 years, suffering from acute polyarthritis and mitral insufficiency with stenosis; she also had a pulse-rate of 110 and received no benefit from aspirin. An injection of the dye resulted in quick relief of the symptoms, although the pathological changes in the heart were of course not affected. Altogether eight cases were treated, the conditions including endocarditis, polyarthritis, erysipelas, general sepsis from a gangrenous appendix, lobular pneumonia, and disease of the hip and knee, probably of tuberculous origin. Out of eight cases only three were not benefited, while the remaining five improved distinctly. It was stated at the meeting that intramuscular injections were not so advisable as intravenous ones, and that it was a good plan to inject first 1 decigramme (1½ grains) and follow it up after one or two days by another injection twice as strong. It was important to have the substance completely dissolved and to use a fresh solution every time.

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[1] THE LANCET, June 29th, 1912, p. 1782.

The Multiplication of Titles for Medical Men.

Numerous members of the medical profession have of late been granted the privilege of obtaining various titles like "imperial councillor," "medical councillor," and similar high-sounding expressions for use on their doorplates. The system is obviously open to criticism, and is, in fact, not viewed with approval by the bulk of the profession, for as a rule the reasons on account of which such distinctions have been conferred are not very apparent. In the majority of cases the recipients of these titles do not possess any exceptional merits which might distinguish them from their neighbours. The medical authorities have therefore taken the matter up, and it is intended either (1) to endeavour to induce practitioners to refuse to accept any of these minor titles as being derogatory to their professional dignity; or (2) to bring it about that every medical man after having practised for, say, 25 years should receive a medical title like "Medicinal Rath" or something equally designating him as having been engaged in practice for a considerable length of time.

The Treatment of Rabies.

Writing to the Medizinische [illegible] [illegible] or Bujwid discuss[illegible] of patients either [illegible] [illegible]sed to be infected with [illegible] [illegible]ation he gave the results [illegible] [illegible]stitute for rabies in Cracow. [illegible] the anti-rabic emulsion fo[illegible] from the eastern part of ou[illegible] country of Galicia has the largest [illegible] [illegible]ses of rabies in Austria, owing to the low standard of general hygiene amongst the poor population, and to the number of stray dogs, and perhaps also wolves. Thus, since the year 1893, when the institute was opened, and one patient was treated, the number of patients went up rapidly, the figures being 38, 104, 146, 160, 288, 320, 404, 647, 516, 556, 537, 799, 746, 765, 867, 846, 780, 795, 1120, 600. The mortality was very variable, from zero up to 1·7 per cent. (in 1901, 1902, and 1908). After, however, introducing a new virus obtained by 30 passages through rabbits, a "fixed virus" has been prepared and is now available for use; it remains constant in so far as it kills a rabbit in eight days, whilst the previous virus took from 17 to 12 days for its action. By using this "fixed virus," the mortality has been brought down to 0·4 per cent. Such results must be regarded as satisfactory, and as soon as the general population have been brought to realise the necessity of very early treatment there is good reason to hope that nearly every patient infected by a rabid animal will be saved.

March 16th.

"Metro" and Tuberculosis.
[illegible]liamentary Commission
of senators, deputies
[illegible]n, points of
[illegible]ofess[illegible] of danger
[illegible]nt[illegible]ulosis arises
[illegible]centa[illegible] &c.

CANADA.

New Chancellor for McGill University.

Sir William Macdonald has been elected Chancellor of McGill University, in succession to the late Lord Strathcona. The new Chancellor has been a munificent friend to the institution. On the same day that Sir William Macdonald was elected the board of governors appointed Dr. Geddes a Governors' Fellow of the University, and also announced that Dr. James Douglas, of New York, had given the University $10,000 for a Fellowship in Mining.

Canadian Militia Medical Service Association.

The seventh annual meeting of the Association of Officers of the Medical Services of Canada was held in Ottawa on Feb. 24th and 25th. At the annual banquet on Feb. 24th Lieutenant-Colonel John T. Fotheringham, M.D., of Toronto, presided, and H.R.H. the Duke of Connaught was the guest of the evening. Major D. B. Bentley, M.D., of Sarnia, Ont., Commander of the Fourteenth Field Ambulance, was presented by His Royal Highness with the silver cup given annually by Colonel George S. Ryerson, of Toronto, for the best field ambulance work during 1913. Lieutenant-Colonel R. T. Macdonald, of Sutton, Quebec, was elected president of the association, and Major T. H. Leggatt, of Ottawa, secretary. The Hon. Samuel Hughes, Minister of Militia, has increased the annual grant to the association from $500 to $1000.

Vancouver General Hospital.

It is proposed to add to the Vancouver General Hospital a maternity hospital, an infectious disease building, and administration quarters. The cost of this will be about $700,000. Recently a deputation waited on the British Columbia Government requesting a grant of $250,000; and it was pointed out that quite 50 per cent. of the cases treated in this hospital came from points in the province outside the city of Vancouver, and that more than $1,000,000 had already been spent on this hospital. To this amount the Government had only contributed $35,000.

American Bacteriologists Meet in Montreal.

The meetings of the above were held recently at McGill University. Their society brings together workers in all branches of bacteriology, and is entirely separate from the American Association of Pathologists and Bacteriologists. There were present workers in the bacteriology of water and milk, agricultural bacteriologists, and public health workers. The interest of the meeting centred around the communication of Dr. N. S. Ferry, of Detroit, U.S.A. The reason of this was due to the fact that the lay press had heralded Dr. Ferry as the discoverer of the micro-organism of scarlet fever. What he described, however, was a coccus which he had frequently found in the throats of scarlet fever patients. He has not been able to produce the disease by inoculation of a pure culture of this organism. There was one striking feature in connexion with this announcement—namely, that nurses at the Detroit Contagious Diseases Hospital who had previously been liable to catch the disease from the patients, since Dr. Ferry had vaccinated them with pure cultures of this organism during two years or more had not developed a single case of the disease in their ranks; and it is interesting to add that when Dr. Ferry was absent for a few months, and the supply of vaccine had ceased, some of the nurses who had not been vaccinated contracted the disease.

March 7th.

Obituary.

GEORGE ERNEST HERMAN, M.B. LOND., F.R.C.P. LOND., F.R.C.S. ENG.,

CONSULTING OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

WE regret to record the death on March 11th, at his country house in the West of England, of Dr. George Ernest Herman, one of the leading British obstetricians and gynæcologists of the last quarter of the nineteenth century, and a teacher whose influence was carried by his published works far beyond the wide circle of his old pupils at the London Hospital.

Dr. Herman was born on Feb. 8th, 1849. After studying medicine at the London Hospital he qualified M.R.C.S. Eng. and L.S.A. in 1870. In 1875 he obtained the Fellowship of the Royal College of Surgeons, and in 1879 the M.B. degree with honours at the University of London. In 1885 he was elected a Fellow of the Royal College of Physicians of London. Thus, although he never proceeded to the doctorate in his university he was one of the few gynæcologists of his time who held the Fellowship of both Royal Colleges.

In 1876, at the early age of 27, Dr. Herman obtained the post of assistant obstetric physician to the London Hospital, and in 1883 he was promoted to the full staff in succession to Dr. Palfrey. For the next 20 years he continued his active duties of obstetric physician to the hospital and lecturer on midwifery and diseases of women in the Medical School, retiring in 1903, when he was appointed consulting obstetric physician. Apart from his long and honourable association with the London Hospital, Dr. Herman did excellent work as physician to the Royal Maternity Charity and to the General Lying-in Hospital, York-road, Lambeth, and he was also consulting obstetrical physician to the East End Mothers' Home and to the Tower Hamlets Dispensary. In 1893 he was elected President of the Obstetrical Society of London, and in 1886 President of the Hunterian Society, while the Chicago Gynæcological Society conferred on him its honorary Fellowship. As an examiner in midwifery Dr. Herman did much sound work at the English Conjoint Board and at the Universities of Oxford, Cambridge, London, Durham, and Manchester.

But it was mainly by the written word that Dr. Herman's method and manner as a teacher became known to countless numbers of students and practitioners. Something of his own individuality was stamped upon almost every page of the three works which are indelibly associated with his name. His "First Lines in Midwifery" for students and midwives was first published in 1891 and is still deservedly popular, while "Difficult Labours," which first appeared in 1894, has a place by itself on the working practitioner's bookshelf. Herman's "Diseases of Women" was first published in 1898, and has passed successfully through a number of editions, the last appearing two years ago under the joint editorship of the author and Dr. Drummond Maxwell. This work was rightly described by Dr. Herman as a "clinical guide," and, like his previous obstetrical handbook, it was unique in its own field. The influence for good exercised by these two works upon students and practitioners during the past 20 years must have been very great indeed.

Sir Francis H. Champneys writes: "The death of Dr. Herman removes one of the leaders of the branch of obstetrics and gynæcology in our country, after an active and honourable career extended over some 40 years. During practically the whole of this time, or, at least, until his superannuation at the London Hospital severed his connexion with that institution, his work had been continuous, strenuous, and of a high class. His writings showed an active, alert, and singularly logical mind, combined with a wholesome scepticism (in the best sense) which prevented him from accepting current theories, however fashionable, unless facts were found to bear them out. During his lifetime many such fashionable waves have begun—and ended. His style was lucid and pure, with the least shade of a love of archaisms, such as were also dear to the late Dr. Gee; and this probably sprang in both from a habit of reading old books. In neither case did this, however, prevent the author from being thoroughly abreast of his time. Dr. Herman was one of a little band of juniors who in the seventies were, so to say, 'waiting for the consolation of Israel' and who were, therefore, more than ready to welcome the advent of the late Dr. Matthews Duncan to London, an advent which wrought a peaceful revolution in obstetrics and gynæcology in England. To those who are not old enough to remember its condition before that time the change can hardly be described. The writer was much associated with Dr. Herman throughout his career, especially in the Obstetrical Society of London, of which he was all along one of the most useful and active Fellows, and also on various examining boards. His name will long be honourably remembered in the department."

A former colleague at the London Hospital writes: "Only those who were intimately acquainted with Herman knew the man as he really was. His cold and somewhat formal manner and his short and precise way of speaking gave no clue to the kindly feelings or to the breadth of mind that lay beneath. But many of his residents, as well as sisters and students, can testify to acts of kindness done so quietly and naturally that no one seemed to be aware of them; and whene[illegible] colleagues felt that [illegible] As one who was associated with him for many years I have no hesitation in saying that the work he did during the time that the London Hospital Medical College was coming from obscurity into the front was simply invaluable. As a teacher his reputation stood deservedly very high. The opinions that he expressed were the product of his own matured judgment founded on many years of clinical experience; and though a bold and skilful operator himself, he never advocated any measure unless he had first convinced himself that it was necessary and in the best interests of the patient. Few men in his special line of work have earned or deserved a greater or more widely acknowledged degree of respect. He was trusted absolutely by all who knew him."

Dr. Herman married in 1884 Emily, daughter of Mr. T. Gibbings, of Chichester. He leaves four sons, one of whom is a member of the medical profession, and one daughter. For the past few years, since his retirement from practice in Harley-street, he had lived at his country house at Cam, near Dursley, in Gloucestershire.

SIR FRANCIS XAVIER FREDERICK MacCABE, F.R.C.P. Irel.

The death of Sir Francis MacCabe, which we announced last week, occurred on March 3rd at his residence, Sandyford, county Dublin, in his eighty-first year. He was the son of William B. MacCabe, a well-known writer of church history in his time, and was born in Dublin. He received his medical education at the Westminster Hospital, and obtained the Membership of the Royal College of Surgeons of England in 1858. Three years later he received the Licence of the King's and Queen's College of Physicians of Ireland. After a few years' private practice he was appointed resident medical superintendent of the Waterford County Asylum. In 1872 he was transferred to Dundrum Criminal Lunatic Asylum, and in 1876 he gave up lunacy work to become a medical inspector of the Local Government Board. While holding this office he acted in 1879 as a member of the Royal Commission to Inquire into the Sanitary Condition of Dublin. In 1885 Mr. MacCabe left the Local Government Board to become medical member of the General Prisons Board, but in 1888 he returned to the Custom House as medical member of the Local Government Board. In 1892 he received a knighthood and in 1898 he retired. Sir Francis MacCabe brought ability and care to the discharge of his public duties. In private life he interested himself in philanthropic work. He leaves three sons, of whom one is a member of the medical profession.

HENRY GARNETT WILSON, M.B., C.M. Edin.,

LATE PHYSICIAN TO THE GLASGOW HOSPITAL FOR DISEASES OF WOMEN.

Dr. Garnett Wilson, whose death occurred recently, after a long and trying illness borne with great fortitude, studied in Edinburgh and graduated M.B., C.M. at the University in 1882. He proceeded to Glasgow, where he soon acquired a large practice, his patients recognising in him an able medical adviser and a highly sympathetic personality. He was physician to the Glasgow Hospital for Diseases of Women for a number of years, and showed himself both in his hospital and private practice interested in every advance in his profession and a determination to remain up to date therein. He was an expert angler and a good musician, and his company was greatly enjoyed at many medical gatherings, both in Edinburgh and Glasgow. He leaves a wife and two sons, the elder of whom is at present assistant to Professor R. Muir in the University of Glasgow.

Liverpool Eye and Ear Infirmary.—The annual meeting of this charity was held on March 16th, when the committee announced that the revenue for the past year had almost equalled the expenditure. The premises adjoining the hospital, which had been built for a sculptor's studio at the same time as the hospital, and which formed an architectural part of the building, had been purchased. An anonymous benefactor presented the whole purchase money, £1050, and the committee is now appealing for funds to convert the new premises into a much-needed ear department. The appeal is for £15,000, a portion of which is to form an endowment fund.

Correspondence.

"Audi alteram partem."

CHANGES IN THE BLOOD PRESSURE IN THE CAUSATION OF SURGICAL SHOCK.

To the Editor of The Lancet.

Sir,—I have read with much interest Mr. A. Rendle Short's Hunterian lecture on this subject in your issue of March 14th. His lecture clears up several of the debatable points in this difficult and important subject. It is now eight years since I delivered the Hunterian lectures on Shock,[1] and since that time several new theories of shock have been brought forward. Most of these, however, are disposed of as untenable by Mr. Short, but some of the conclusions come to by Mr. Short in his lecture cannot, I think, be allowed to pass unchallenged.

For some five years after delivering the Hunterian lectures I worked on the subject of shock, chiefly from the experimental point of view, with Mr. W. Legge Symes. Unfortunately, owing to the pressure of professional work, I was obliged to give up these researches, and the results have never been published, though some useful results were obtained.

The great difficulty in criticising Mr. Short's paper is the lack of any definition of what he understands by the term "surgical shock." Unless physiologists can agree upon a definition of surgical shock it is obviously impossible to arrive at any conclusions as to the causation of this condition. The clinical definition given by Sir Watson Cheyne and quoted by Mr. Short, excellent as it is, is not sufficient, for although it correctly describes the condition of surgical shock as understood by Dr. Crile and myself, it will also equally well describe the condition of patients suffering from a severe toxæmia. I have found that one of the greatest difficulties in dealing with surgical shock is to distinguish between it and toxæmic conditions. Often, no doubt, the conditions are combined, as, for instance, in the case of patients dying after an operation for intestinal obstruction. It seems almost certain, too, that the condition produced by severe burns is not really one of shock, but is due to a toxæmia, although we do not at present know the nature of the poison.

I cannot agree with Mr. Short that shock is ever seen with contracted blood-vessels, nor do I think he brings forward any reliable proofs of such a condition in his lecture. Experiments on blood pressure which depend upon electrical stimulation of nerves must be accepted with the greatest caution. Mr. Symes and I, after numerous experiments, gave up this method, as we found it was impossible to guard against errors due to stimulation of muscles and sympathetic nerves. The test for shock described by Tyrell Gray and Parsons—based on the theory that stimulation of the sciatic nerve causes a fall instead of a rise of blood pressure—we found was quite unreliable. Mr. Short quotes me as accepting the view that the specific gravity of the blood is raised in shock, but he cannot have seen a paper on Some Points on the *Experimental Production and Control of the* Vascular Atony of Surgical Shock, by Mr. Symes and myself,[2] in which we showed that, on the contrary, the specific gravity falls with the blood pressure. The following extract briefly indicates our conclusions in that paper:—

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[1] The Lancet, 1905, vol. i., pp. 696, 776, 846.

> Fall in specific gravity of the blood implies transudation of tissue fluid into the blood stream. This is confirmed by the accompanying diminution in percentage of the hæmoglobin. In a cat (2·7 kg.) the hæmoglobin, on the Gowers-Haldane scale, fell from 70 to 58, whilst the specific gravity of the blood dropped from 1048 to 1043. This percentage diminution of the hæmoglobin shows that each 100 volumes of blood was diluted (in round numbers) to 120, which, in conjunction with the accompanying fall in specific gravity of the blood, indicates that the transudate had a specific gravity of 1018—that is, that of average lymph. The reaction of the organism, then, to fall of blood pressure is increase in volume of the blood. That such an increase will tend to restore the lost pressure is obvious. It is, therefore, not unreasonable to regard the reaction as protective, and to infer that transfusion is the logical treatment of the condition.

Mr. Short makes the point that the subcutaneous veins are not dilated in shock and gives this as an argument against the correctness of our theory; but surely it is not. The reason why the subcutaneous veins are found to be empty in surgical shock is that owing to the diminished pressure and feeble circulation the blood does not reach them. I do not think that either Dr. Crile or I ever supposed that the condition of the vaso-motor centres was alone responsible for all the phenomena of surgical shock. The mechanism for maintaining the blood pressure and an adequate circulation is an exceedingly complicated one, depending upon the condition of the muscular structures of the body and on that of many other tissues; and numerous other nerve centres in the neighbourhood of the fourth ventricle are doubtless involved. There is yet much to be learnt with regard to the relative importance of these various centres in the causation of surgical shock; but I believe that in the main the theory originally propounded by Dr. Crile, and adopted by me in 1905, will prove to be the correct explanation of the condition known as surgical shock. The apparent anomalies that are discovered in attempting to explain the phenomena of surgical shock will, I think, be found to be due to the fact that at the present time several distinct conditions are confused under this term.

That Mr. Short's conception of surgical shock is totally different from that of Dr. Crile and myself is shown by his description of the "knock-out blow" as a state of shock. It is, of course, nothing of the sort; the condition produced by a "knock-out blow" is one of collapse and is due to temporary paralysis of all the centres at the base of the brain. This is not in any way comparable to the condition of surgical shock seen after an operation.

I am, Sir, yours faithfully,
J. P. LOCKHART MUMMERY, F.R.C.S. Eng.
Hyde Park place, W., March 17th, 1914.

To the Editor of THE LANCET.

SIR,—In Mr. A. Rendle Short's lecture on the above subject various objections are urged to the view that acapnia causes surgical shock. One of the criteria which appears to the lecturer to be very damaging, if not fatal to the theory, is that the CO_2 content of the venous blood in man shows no fall during shock. But the method of estimating the CO_2 content by Mr. Short is fallacious. His method is to tie a bandage round the patient's arm and then withdraw blood from a vein. Now, immediately after the bandaging the blood below the bandage would absorb an excess of CO_2. Any deduction therefore as to the general content of CO_2 from such a sample of blood is worthless. It may be added that it is the CO_2 content of the arterial blood which is the true criterion. In Yandell Henderson's experiments the CO_2 was always estimated from samples of the arterial blood. I am, Sir, yours faithfully,

Henrietta street, W., March 14th, 1914. A. G. AULD.

THE ACTIONS OF CHLOROFORM AND ETHER ON THE BLOOD PRESSURE.

To the Editor of THE LANCET.

SIR,—As Dr. H. P. Fairlie in THE LANCET of Feb. 28th kindly refers to a remark of my own I should like to make some comment upon his interesting communication. I am the more anxious to do this as I think that his general conclusion, if not controverted and if widely acted upon, is likely to lead to many unfortunate results. This conclusion is that chloroform is a more desirable anæsthetic than ether for long operations or for those where considerable shock is anticipated. Now, in spite of his observations, I would urge that there is an enormous preponderance of evidence from experience in exactly the opposite direction. Nor can his theoretical explanation, quoted from Brown, that chloroform narcotises the vaso-motor cells and ether does not, be accepted; so far as I can see it is pure assumption. Dr. Fairlie does not deny, as indeed the facts prevent him from doing, that with chloroform there is greater fall of blood pressure and more marked shock at the time of operation than with ether. It is afterwards that he believes that ether more often leads to delayed recovery or to fatality. He must bring definite proof of this in a sufficient number of cases before we can assume that chloroform, with its undoubted dangers on the table, is the anæsthetic to be chosen. With modern methods of giving ether and proper use of preliminary alkaloids in suitable cases, the after-effects of ether compare most favourably with those of chloroform; and the delayed recovery that Dr. Fairlie alludes to is, from the nature of the action of the two drugs, far more to be dreaded after long inhalations of chloroform than of ether. In my own experience, as well as in that of many others, ether is especially to be preferred in long and severe operations, and I believe that to encourage the opposite practice would be to lead many inexperienced administrators into difficulties from which they would find it extremely hard to extricate their patients. I am, Sir, yours faithfully,

Harley-street, W., March 16th, 1914. J. BLUMFELD.

To the Editor of THE LANCET.

SIR,—Mr. A. Rendle Short's masterly lecture on Surgical Shock in your issue of March 14th, disposing as it does so effectually of many recent and fascinating theories, is a very complete answer to Dr. H. P. Fairlie's article on Blood Pressure during anæsthesia by chloroform and ether respectively. It is established that, in shock, the left heart and the arteries are empty owing to "bleeding" into the veins of the relaxed muscular system, and the practical corollary is that no anæsthetic should ever be given to such a depth as to relax the muscles completely. As a matter of fact, such deep anæsthesia is necessary very seldom indeed,

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[2] Brit. Med. Jour., Sept. 19th, 1908.

LEGISLATION FOR INEBRIATES.

To the Editor of THE LANCET.

SIR,—At the time when new legislation for inebriates is before Parliament your leader on the last report of H.M. Inspector under the Inebriates Acts is very opportune. It seems to me, however, that the writer of this article in his endeavour to show the real need for better laws relating to inebriates and better administration of those laws, and in an endeavour to shed more light on the nature of inebriety, actually makes confusion still further confounded in regard to this latter point.

Whilst agreeing with Dr. Branthwaite's definition of "inebriate," as applied to a minority of habitually drunken persons, he objects to its application to those whom he regards as forming the majority of inebriates. These latter he considers to be inebriates, not from psycho-neurotic fault, but rather from environmental conditions. I do not know on what experience of inebriety and of inebriates the opinions are based, but I do know that Dr. Branthwaite's definition, which he calls "*narrow*," *is the result of more than 30 years'* unrivalled experience and close study of every type of inebriate met with in private practice, high-class retreats, and certified inebriate reformatories. My own experience of more than 12 years' work, although restricted to better-class well-educated inebriates, bears him out entirely.

In order to form an opinion as to the mental equipment of an inebriate it is necessary to be intimately acquainted with him both under the influence of alcohol or drugs and during many weeks of enforced or semi-enforced sobriety. My experience of some hundreds of better-class inebriates (both voluntary patients and those who are more or less compulsorily committed under the Inebriates Acts) leads me to doubt whether any one of them can be said to have had anything like a sound psycho-neurotic integrity. While environment plays a very important part in the development of inebriety, it is unquestionably a purely secondary part, persons of sound psycho-neurotic make-up being able to live in similar environments as moderate users of alcoholic liquors.

My experience makes me agree entirely with Dr. Branthwaite's opinion that the fundamental cause of inebriety in nearly all cases is psycho-neurotic fault, defect, peculiarity, call it what you will, generally congenital, but sometimes acquired as the outcome of accident (physical or pyschic trauma) or faulty early training, and that such fault may be trivial, or so apparent as to merit being spoken of as mental defect in the modern acceptation of the term. Whether, however, the majority of inebriates are such owing to psycho-neurotic fault or environmental conditions, the writer of this article, Dr. Branthwaite, myself, and others, who know something of inebriety, all come to the same conclusion—namely, the necessity of further legislation to reach a very large number of inebriates who are out of the reach of existing legislation. Stronger powers are necessary to bring them under satisfactory control and treatment.

Any new legislation for inebriates, such as is suggested by the Bill now before Parliament, must make it possible to reach the curable inebriate far more readily than at present is possible, and the law when enacted must be far more effectually and intelligently administered than is the case with the present Acts, which, ineffectual and gravely deficient as they are, might have been more useful than they have been had they been better administered. There is undoubtedly a better understanding of the real nature of inebriety than there was by the inebriate, his relatives, friends, and his family doctor. With this knowledge better results from treatment are following, due largely to intelligent coöperation on the part of the inebriate and a better understanding of the nature of his trouble. With new legislation dealing with the feeble-minded and with inebriety, as already enacted and comtemplated, real advance should certainly be made in a matter of vital importance to the individual and to the community.

I am, Sir, yours faithfully,
J. W. ASTLEY COOPER,
Medical Superintendent.
The Ghyll Retreat, near Cockermouth, March 16th, 1914.

*** We remain of our already expressed opinion, which was founded upon experience, general as well as particular.—ED. L.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

To the Editor of THE LANCET.

SIR,—It appears to me that the important point in connexion with this matter is being overlooked. The medical profession will readily acquit the eminent authorities whose names appeared in connexion with the publication of any intention of advertising themselves, but it appears to be a fact that they did lend their countenance to an enterprise directly contrary to the best interests not only of the medical profession, but also of the general public. I am, Sir, yours faithfully,

Pembroke, March 16th, 1914. A. HURRELL STYLE.

AN ASSOCIATION OF TUBERCULOSIS MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—The appointment of tuberculosis medical officers having now become general throughout the country it has occurred to me that the formation of an "association" of such officers is a matter worthy of consideration. If such an association came into existence tuberculosis medical officers would be provided thereby with a means of meeting, and thus have the opportunity afforded to them of discussing together and amongst themselves various topics connected with their particular field of labour. This, I think, would be a most desirable thing. It would tend to their mutual benefit and also to the advancement of the treatment of the patients of whom they have charge. Cases could be compared, opinions interchanged, difficulties met with in practice discussed, &c.

Local authorities are framing a general attack upon tuberculosis, and the tuberculosis medical officer is the important factor of the authority responsible for the treatment of the disease in their area. With an association such as I suggest a much greater benefit would accrue from the interchange of knowledge thus afforded than by each individual officer working single-handed in his own field. The object of the attack on the disease is ultimately—and in the shortest possible space of time—to stamp it out altogether. We ought to leave nothing undone which will assist us in our efforts to bring about this result.

In such, then, lies the object of my appeal, and I hope to see some expressions of opinion on the matter in reply thereto. If the general opinion is in favour of an association being founded a preliminary meeting formally to discuss matters in connexion therewith could easily be called. Such an association as I suggest has, I believe, already been formed in Ireland.

I am, Sir, yours faithfully,
J. T. CROWE,
Tuberculosis Medical Officer for Leicestershire.
Leicester, March 17th, 1914.

THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—The public health committee of the borough of Wimbledon have made arrangements for the carrying out of the Wassermann reaction on behalf of the residents in the district. I am afraid that Dr. L. C. Parkes's arrangements at Chelsea, as set forth in his letter in THE LANCET of Nov. 29th, 1913, would, to a certain extent, defeat his objects, as he demands that the name of the patient shall be supplied. My authority have agreed that no names shall be supplied, so that there shall be no question of anything being revealed. In order to get over the difficulty of Section 133 of the Public Health Act the practitioners are asked to certify (1) that the patient on whose behalf the Wassermann test is being made is a resident within the borough, and (2) that the patient is not in a position to pay the fee for such examination. Thus I think there will be no difficulty which might be encountered if the patients feared that their names were to be given to a third party.—I am, Sir, yours faithfully,

EDWIN H. NASH,
Wimbledon, March 14th, 1914. Medical Officer of Health.

ACUTE SUPPURATIVE OTITIS MEDIA IN SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—May I ask through the medium of your columns for an answer to an important point as regards the infectivity of the pus from the ears of a child suffering from suppurative otitis of scarlet fever? Is this discharge permanently infective and liable as long as it lasts to convey scarlet fever to another person? If not, for how long does such an infectivity last? and when may it be said to be safe to allow a child out of quarantine, though it still has a discharge from the ears?

I venture to think that a clear and authoritative answer to these questions would help many practitioners besides myself.

I am, Sir, yours faithfully,
March 16th, 1914. JOHN MACKERN, M.D. Cantab.

THE TREATMENT OF WARTS.

To the Editor of THE LANCET.

SIR,—In Home and Foreign Notes of the current issue of THE LANCET your Budapest correspondent details a "new" method of treating warts. I have been employing the method (prolonged covering with rubber plaster) for warts and corns for at least eight years, and the idea which originated it explains the mode of action. Eight years ago I had my first Turkish bath, and noted the excessive maceration of the epidermis under the influence of prolonged perspiration. I had then a very painful corn on the sole of my foot, and next day subjected it to prolonged perspiration by applying a star of three little strips of "Z.O." surrounded by a corn ring. Reapplication continuously for three weeks brought out the whole corn in a "wash leather" state, and it has never recurred.

And this "stewing in its own juice" is the least painful as well as the most certain cure for hard corns (and warts). Silver nitrate is the most certain cure for soft corns.

I am, Sir, yours faithfully,
March 13th, 1914. M.B.

THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—I wish to explain why, at the conference of Local Medical and Panel Committees held in London on Friday, March 13th, I asked that Motion 29 on the agenda should contain an expression of opinion that medical referees appointed under the Insurance Act should be non-panel practitioners. In a small area like the Isle of Wight there is not enough work for a whole-time appointment, and doubtless this is the case in many other areas. I take it that in every such area there are non-panel practitioners in touch with the local profession who would gladly do the work entailed providing the conditions are satisfactory; such men would be more independent in their judgment and better able to give an unbiased opinion. Also it is, to my mind, important at this juncture not to widen the breach between the panel and non-panel practitioners. The latter are constantly saying that the Insurance Act has nothing to do with them, and therefore that it is futile for them to belong to various bodies set up under the Act. Why should not this opening be taken to prove that this is not the case? Undoubtedly they will be required in other capacities in the future under the Act as it develops, and I think it is only right to take the first opportunity to further a more sympathetic attitude between panel and non-panel men.

As the chairman of the conference would not listen to what I wanted to point out, and as he would not accept the alteration I suggested in the wording of the motion, I think it is only due to myself and my committees to send this letter to THE LANCET, hoping you may find space for it.

I am, Sir, yours faithfully,
[illegible]
[illegible]
Ryde, I.W., March 16th, 1914.

A FUNDAMENTAL QUESTION IN DIET.

To the Editor of THE LANCET.

SIR,—What effect has cooking on the vitamines? I do not know what they may be, but it is my business to give advice on diets, and I learn (*a*) that they are essential, and (*b*) that they are destroyed by cooking. Therefore I think the title to this note is justified. I am, Sir, yours *faithfully*,

London, March 19th. CIVIS.

⁂ We have re-stated the question in an annotation, hoping that some physiologist may assist us to reply.—ED. L.

AN AGED COUNTESS.—The death of the Countess of Devon, in her 100th year, is announced at Cheltenham. It may be recalled that there is at least one case on record of a titled lady having lived for more than a century—namely, the old Countess of Desmond, who died in 1604 at the reputed age of 140.

THE NATIONAL INSURANCE ACT.

THE FABIAN SOCIETY'S REPORT.

A SPECIAL supplement of the *New Statesman*, published on March 14th, contains the interim report of the committee of inquiry into the working of the National Insurance Act instituted by the Fabian Society Research Department last July. We shall refer to this report in an early issue.

LOCAL MEDICAL COMMITTEE FOR LONDON.

The following is the list of nominations received by the Metropolitan Counties Branch of the British Medical Association for the election of a Local Medical Committee for the County of London:—

Panel Practitioners.

Borough of Marylebone—David Steel Roxburgh and John Pollock Simpson (*contest*).
Borough of Woolwich—Albert Edward Thomson.
Borough of Greenwich—W. H. Reed and Christopher Whewell Hogarth (*contest*).
Borough of Deptford—William Henry Payne.
Borough of Bermondsey—Benjamin Arthur Richmond.
Borough of Southwark—J. V. C. Denning.
Borough of Lambeth—Herbert Taylor.
Borough of Camberwell—George Beckett Batten.
Borough of Wandsworth—A. C. B. Biggs.
Borough of Battersea—John Theodore Richards.
Borough of Fulham—John Fletcher.
Borough of Chelsea—John James Orr.
Borough of Hammersmith—J. A. Butler.
Borough of Kensington—Herbert Henry Mills.
Borough of Paddington—John Alexander Angus.
Borough of Westminster—Albert Ernest Cope.
Borough of St. Pancras—Thomas Marshall.
Borough of Islington—J. J. A. Sherry.
Borough of Stoke Newington—Alfred Welply.
Borough of Hampstead—E. Claude Taylor.
Borough of Shoreditch—David Livingston Hamilton and Major Greenwood (*contest*).
City of London—John James Scanlan.
Borough of Holborn—Michael Joseph Ryan.
Borough of Finsbury—Robert Drummond MacGregor.
Borough of Hackney—Thomas Francis Keenan.
Borough of Bethnal Green—G. Henderson.
Borough of Stepney—W. Owen Williams and Percy T. Goodman (*contest*).
Borough of Poplar—H. J. Cardale.

Non-Panel.

Three nominations were required for each group of boroughs, except Marylebone, for which one only was required.

Marylebone—Charles Wynn Wirgman.
Group I. Woolwich, Greenwich, Deptford, Lewisham—No nominations.
Group II. Bermondsey, Southwark, Lambeth, Camberwell—No nominations.
Group III. Wandsworth, Battersea, Fulham, Chelsea—No nominations.
Group IV. Hammersmith, Kensington, Paddington, Westminster—W. H. Burnhill and Wilfred Kingdon.
Group V. St. Pancras, Islington, Stoke Newington, Hampstead—No nominations
Group VI. Shoreditch, City of London, Holborn, Finsbury—J. H. Porter and W. F. Roe.
Group VII. Hackney, Bethnal Green, Stepney, Poplar—A. G. Southcombe, Gilbert Nicholson, and M. C. Corner.

Six Representatives of the Medical Staff of Hospitals.

W. McAdam Eccles, Thomas Watts Eden, James Galloway, N. Bishop Harman, Vincent Warren Low, Lauriston E. Shaw, Fred. J. Smith, George Robertson Turner (*contest*).

One Poor-law medical officer.—H. E. Garrett.

One medical officer of health.—No nomination.

One registered medical woman.—Mina Dobbie.

NATIONAL MEDICAL UNION.

In reference to the resolutions circulated on March 12th by the London Organisation Committee of the National Medical Union to all practitioners resident in the County of London and not on the panel, repudiating the action of the Metropolitan Counties Branch of the British Medical Association in attempting to elect a Local Medical Committee for London, we have been asked to publish the following statement of the position taken up by the National Medical Union:—

The proposals of the Metropolitan Counties Branch are made with a view to the committee so to be elected obtaining statutory recognition by the Insurance Commissioners as "representative of duly qualified medical practitioners resident in the county," such committee when elected and recognised to have the duties mentioned in Section 62 of the Insurance Act of 1911.

Section 62, 1911, *reads as follows*:—

Where a Local Medical Committee has been formed for any county or county borough or for any area for which a District Committee has been formed and the Insurance Commissioners are satisfied that such committee is *representative of the duly qualified medical practitioners resident in the county*, county borough, or such area as aforesaid, they shall recognise such committee, and, where a Local Medical Committee has been so recognised, it shall, subject to the Regulations made by the Insurance Commissioners, be consulted by the Insurance Committee or District Committee, as the case may be, on all general questions affecting the administration of medical benefit, including the arrangements made with medical practitioners giving attendance and treatment to insured persons, and shall perform such other duties, and shall exercise such powers as may be determined by the Insurance Commissioners.

The Amending Act, Section 32, of 1913, provided that the opinions and wishes of the medical practitioners who have entered into the agreement should be ascertained by Insurance Committees through Panel Committees representative of the panel practitioners. Such Panel Committee has been formed in London, and it is further to be noted that by the Amending Act it is made eligible for recognition as the Local Medical Committee above described in Section 62 of the principal Act.

The London Organisation Committee of the National Medical Union bases the recommendations announced in its circular on two grounds: 1. The numerical basis of the election proposed by the Metropolitan Counties Branch renders it quite unrepresentative of the whole profession resident in the County of London, and on that ground it would be ineligible for statutory recognition and illegal if recognised. 2. The duties and sphere of action of the Panel Committee and Statutory Medical Committee respectively in London being as above described, and the situation with regard to panel and non-panel practitioners in London being what it is, the London Organisation Committee of the National Medical Union regards the attempt by the Metropolitan Counties Branch to set up a statutory committee on the above lines as calculated to involve the non-panel practitioners in London in an appearance of lending support to the present arrangements for medical benefit under the Insurance Acts, whereas, as a matter of fact, their aim and object is to proclaim and evince in every possible way their determined opposition to the same.

NURSING UNDER THE INSURANCE ACT.

At a conference convened at Westminster by the Association of Approved Societies Sir Victor Horsley, as chairman of a subcommittee appointed to consider a scheme for the nursing of the insured, submitted the outlines of a proposal. The committee considered that the Commissioners should set up a special nursing fund comparable in constitution and administration to the special mileage fund. The Approved Societies could not, as a whole, add nursing benefit to existing benefits, and the need was urgent. The report was received but not adopted, the discussion showing that delegates present were not authorised by their societies to support the proposals made.

DERBYSHIRE INSURANCE COMMITTEE.

At a recent meeting of the Derbyshire Insurance Committee it was reported that the Insurance Commissioners had allocated £1000 out of their special fund to the county for mileage for practitioners whose patients lived in distant or inaccessible places. It was asked whether certain sanatoriums had refused to receive patients who had not been vaccinated. The county medical officer of health, Dr. Sidney Barwise, replied that these were private institutions carrying out their own rules. The question was then asked whether when the county sanatoriums were built there would be a like refusal with regard to admission to them. To this the clerk to the committee answered in the negative, but a member insisted upon a reply from Dr. Barwise who answered that "people would have to obey the law." A report of the Sanatorium Subcommittee recommended the committee to pay to the county council for sanatorium treatment for insured persons, and for their dependents recommended for sanatorium benefit by the committee, at the rate of 7½*d.* per insured person per annum. This was discussed and referred for further consideration to a joint committee representing insured persons and the county council.

THE LEICESTER UNION OF MEDICAL PRACTITIONERS.

At the second annual meeting of the Union, held at the Public Medical Service Buildings, Leicester, Dr. R. Wallace Henry was elected president, Mr. J. B. Pike vice-president, and Dr. A. V. Clarke treasurer. The secretary reported that the membership had increased during the year by 105. Arrangements had been made to enable members to obtain without any charge legal advice on matters connected with the relations between themselves and their patients, to have debts collected, and insurances effected on extremely favourable terms. The treasurer reported that there was a balance in hand of £132 18*s.* The committee was authorised to consider the desirability of federating with the National Medical Guild. The meeting was followed by the annual meeting of the Leicestershire and Rutland Public Medical Service which is managed by the Union. Reports were presented from the various subdivisions of the service which showed that there were over 80,000 subscribing members (uninsured persons); that the year's work had been done under conditions which were satisfactory alike to medical men and patients, and that the financial results were most satisfactory. Suggestions for further improving the work of the service were referred to the committee.

A MEDICAL PRACTITIONER VINDICATED.

Hasty and undeserved censure has frequently been applied to the medical profession in connexion with work done under the Insurance Act, particularly with regard to alleged malingering. In a proved case of malingering, for which a sentence of a month's hard labour was recently imposed at the West Ham police-court, the magistrate was reported as having said that he would have imposed a more severe sentence if the prisoner had not apparently "been encouraged in his offence by a gentleman in a responsible and honourable position." The prisoner was stated to have earned over £10 in wages during a period in which he was drawing 10*s.* a week sick benefit upon a succession of medical certificates, and although in a newspaper report before us no names are mentioned, it is obvious that the magistrate's censure was directed against the medical man on the panel who gave the certificates. A few days later the magistrate, Mr. R. A. Gillespie, again mentioned the case and made a handsome retractation of his observations so far as they referred to the medical practitioner, saying that they were based upon statements made on behalf of the prosecutors. He further said that investigation had shown that the remarks made by the prosecuting advocate were in no way justified, and that the following resolution had been passed by those charged with the inquiry: "That this committee having heard the statement of Mr. John Jordan Harvey, express their sympathy with him and their unabated confidence in his honour and integrity, and undertake to use every effort to get him publicly vindicated." Mr. Gillespie was pleased to say that he was able to come to the same conclusion that the doctor's certificates were *bonâ fide*, and that he had no reason to believe that he in any way assisted the prisoner in his false representations. Mr. Harvey is to be congratulated upon the prompt and satisfactory manner in which his reputation has been cleared, and credit should also be given to newspapers, which refrained from mentioning any name in a case in which it was clear that one side only had been heard.

AN INQUIRY AT THE INSURANCE COMMISSION.

On Friday and Saturday mornings of this week public inquiries are being held at the National Insurance Commission, Buckingham-gate, into the desirability or otherwise of retaining two medical practitioners upon their respective panels.

"SURPLUS FUNDS" IN LONDON.

At a well-attended meeting of panel doctors with small lists, held on Tuesday, March 17th, at 12, Thayer-street, W., the following resolutions were passed:—

1. That a committee be formed to arrange for a deputation (*a*) to members of the Government, or (*b*) to the Insurance Commissioners, or (*c*) to the Insurance Committee, or to more than one of them, in order to represent to them that the requirements of the Insurance Act, 1911, in respect of the allocation or assignment of insured persons to doctors on the panel are not being carried out; to inquire why they have not been carried out; and to ask what alternative proposals, equitable to the doctors working the Act, are put forward by these bodies.
2. That this meeting of the London panel doctors asks the Commissioners not to sanction the agreement arrived at between the London Insurance and the Panel Committees as regards the allocation of surplus funds, on the grounds that the agreement does not take into consideration the responsibility incurred by doctors on the panel for treating unallocated persons as required by the Medical Benefit Regulations. The meeting is of opinion that this responsibility does not vary directly with the size of a doctor's list.
3. That this responsibility be measured for each quarter by the number of new patients accepted for treatment during that quarter, and that the unallocated funds be divided in proportion to these numbers.
4. That copies of these resolutions be sent to the Commissioners, the London Insurance Committee, the Panel Committee, and to the medical press.

Only a limited number of men voted for resolution 3, which was carried by a small majority. The feeling of the meeting was absolutely for the exclusion from participation in any surplus funds of all doctors with 2000 or more persons on their lists.

The meeting was convened by Dr. A. R. Eates, who acted as temporary honorary secretary.

FAILURE TO EXAMINE A PATIENT.

At an inquest held recently at Westminster it was proved that the deceased, a foreman sewerman, had complained of pain in the abdomen and had been given a bottle of medicine by his panel doctor. He became worse and had paid another visit to the same gentleman, who had then given him a different medicine, telling him that he was suffering from rheumatism, but had not at either visit made any examination of the patient, who later was taken ill at his work and died in a cab on his way to hospital. Post-mortem examination showed that there had been tuberculous cavities in both lungs and a verdict of death from natural causes was returned, *the jury adding that they wished to censure the* panel doctor for failing to make an examination. This censure the coroner endorsed, expressing the opinion that if a medical man undertook to attend insured persons it was his duty to do his work with thoroughness.

Medical News.

UNIVERSITY OF BRISTOL.—At the Second Examination for the degrees of M.B., Ch.B., held recently the following candidates were successful:—

Frederick Christopher Ashley Frith, Douglas Leonard Lees, George Strickland Lewis, and Arthur Denis Symons.

Dr. Nierenstein, lecturer in bio-chemistry, has been appointed to deliver a short course of lectures in Immuno-chemistry during the month of May.

UNIVERSITY OF LONDON.—Dr. Frederick Taylor has been reappointed a member of the General Medical Council for 1914–15, and Sir William Collins, K.C.V.O., has been appointed representative of the University at the celebration of the 300th anniversary of the foundation of the University of Gröningen in June and July next. The followi[illegible] been appointed staff examiners for 1914–15: Bac[illegible] L. S. Dudgeon; Anatomy, Mr. A[illegible] and Professor A. Melville Paterson; An[illegible]), Professor A. Keith, F.R.S.; Forensic Medi[illegible] Dr. William A. Brend and Dr. E. P. Manby; M[illegible] Dr. Norman Dalton, Dr. Humphry Davy Rolleston, Dr. [illegible]. B. Warrington, and Dr. James Galloway; Mental Diseases and Psychology, Dr. Maurice Craig and Dr. William McDougall, F.R.S.; Obstetric Medicine, Dr. Henry Russell Andrews and Professor Walter C. Swayne; Pathology, Professor Robert Muir, F.R.S., and Professor F. W. Andrewes; Pharmacology, Professor A. R. Cushny, F.R.S., and Dr. James A. Gunn; Physiology, Mr. Joseph Barcroft, F.R.S., and Professor E. H. Starling, F.R.S.; State Medicine, Dr. John William Henry Eyre and Dr. Thomas Morison Legge; Surgery, Mr. Frédéric F. Burghard, Mr. William F. Haslam, Mr. Henry Betham Robinson, and Mr. William Turner; Tropical Medicine, Professor F. M. Sandwith and Professor Sir Ronald Ross, K.C.B., F.R.S. Mr. H. L. Eason has resigned his membership of the external council. A course of eight lectures on the Rate of the Blood-flow in Man in Health and Disease will be given in the physiological laboratory of the University, South Kensington, by Dr. G. N. Stewart, professor of experimental medicine, Western Reserve University, Cleveland, U.S.A., at 5 P.M., on Tuesdays, May 5th, 12th, 19th, and 26th, and June 2nd, 9th, 16th, and 23rd, 1914. A University studentship in physiology will be awarded to a student qualified to undertake research in physiology, and will be tenable in a physiological laboratory of the University or of a school of the University. The studentship will be awarded annually if a candidate of sufficient merit shall present himself, but no student is eligible for re-election.

UNIVERSITY OF CAMBRIDGE.—Mr. V. C. Pennell, now at St. Thomas's Hospital, has been elected to a Fellowship at Pembroke College. The following medical degree has been conferred: B.C., F. W. Watkyn-Thomas, Trinity. On March 14th the grace in favour of applying to the Board of Education for a Government grant to the medical school of the University was adopted by the Senate. The placets numbered 268, the non-placets 235, giving a majority of 33 in favour of applying for the grant.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—The honorary secretaries of King Edward's Hospital Fund for London have received, from the executors of the late Sir Julius C. Wernher, Bart., securities to the value of £269,644 7*s.* 2*d.*, being a first distribution on account of the one-twelfth share of the residuary estate bequeathed by him to the capital account of the Fund. The probable total amount which will accrue under this bequest is £465,000. This is in addition to a specific bequest of £25,000.

THE ASSOCIATION OF PUBLIC VACCINATORS OF ENGLAND AND WALES.—The annual dinner of this association was held at the Royal York Hotel, Brighton, on March 14th, the President, Mr. George Jackson, of Plymouth, being in the chair. After the usual loyal toasts the President, in proposing the toast of "The Association," said that it was established in 1898 and had since continued its career of usefulness with varying support. There were at present 630 members out of 3500 public vaccinators. This was not so large a proportion as they had had, or as they ought to have. The public effect of the association would be greatly enhanced if more joined them. He thought it would be well to consider whether a much larger number would not be gathered in even at the cost of a reduced subscription. The man who had perhaps only a dozen or so of vaccinations in a year was hardly likely to realise the importance of the association. Mr. Jackson spoke in warm terms of the service rendered by Dr. Arthur Drury, of Halifax, whose combating of the argument of Dr. W. R Hadwen before the Manx Commission on Vaccination had undoubtedly materially contributed to what he considered one of the most important of recent steps in the fight—viz., the rejection of the conscience clause submitted by the House of Keys. As it was, there was all over the country an accumulation of dangerous material that would sooner or later overwhelm all sanitary precautions. He referred to some of the grievances of their body, not the least of which was insecurity of tenure, so that public vaccinators were liable to dismissal almost at a moment's notice. Dr. A. E. Cope, of Westminster, in responding, told how the idea of the society had been suggested to him in 1897 by the Local Government Board inspector who was inspecting his vaccinations, who pointed out the great service it could render not only to the public vaccinators themselves, but to the authorities. After consultation with Dr. Mitchell, of Lambeth, and Dr. James, of Bermondsey, a meeting was called which resulted in the formation of the association, with Dr. E C. Greenwood as first president. He eulogised the literary work done by Dr. Drury to bring the work of the public vaccinator before the country. He quoted a parable in which a parallel was drawn between fireproofing and vaccination, between fire brigades and sanitation. No matter to what a pitch of perfection we might carry our fire brigades and appliances, we must not give up our fireproofing. Mr. Arthur Maude, the retiring president, proposed the health of his successor in the chair, Mr. George Jackson, whom he described as the backbone of the profession in the West of England, whose services to the British Medical Association had been very great, and who had represented the profession as one of its elected Members on the General Medical Council. Mr. Jackson acknowledged the toast before leaving. Mr. Maude then took the chair, and Dr. Drury gave the toast of "The Visitors." They were proud to have with them, he said, Dr. S. Monckton Copeman, of the Local Government Board, Dr. W. Ainslie Hollis, President of the British Medical Association, and Dr. Henry Gervis, chairman of the local division of the association, Dr. D. Forbes, medical officer of health for Brighton; Dr. J. F. G. Dill, senior physician, and Mr. R. F. Jowers, *senior surgeon*, of the Royal Sussex Hospital; besides the representatives of the medical press and other visitors. Dr. Hollis replied briefly, and Dr. Gervis also replied, and said that when he was applied to by conscientious objectors he always advised them to read the old novels. In modern novels the hero or heroine died of "brain fever," or went off in a "decline," but in the old novels, which dealt with pre-vaccination times, the ever-present fear with every one was the small-pox. He said that the vaccinators represented the vanguard of the treatment of the future, which looked as though it would consist of inoculation therapy. The public vaccinator would ultimately supersede the parson, for in the time to come the immoral man would be vaccinated from a highly moral character to cure his diseased morals. His hearers might laugh, but stranger things had happened. A good musical programme was provided.

LITERARY INTELLIGENCE.—The new catalogue of the W. B. Saunders Company, revised to February, 1914, forms a useful guide to the publications of this firm. The descriptions of books on medicine, surgery, dentistry, nursing, and veterinary practice are accompanied in many cases by specimen illustrations, and the indices of authors and subjects make reference easy. The catalogue will be sent post free to members of the medical profession on request.—Messrs. Longmans and Co. announce for early publication a new book, by Professor W. M. Bayliss, entitled "Principles of General Physiology," which will treat of the fundamental properties of animal and vegetable cells and organisms, somewhat on the lines of the "Phénomènes de la Vie," of Cl. Bernard.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting will be held at Birmingham on March 27th and 28th. On the opening day, in the University, a discussion will take place at 7.30 P.M. on "The Certification of Milk and its Effect on the General Milk Supply," to be opened by Mr. Wilfred Buckley, who will be followed by Professor A. Bostock-Hill, M.D., Mr. J. Malcolm, F.R.C.V.S., Dr. George Reid, and Dr. John Robertson. General discussion is invited The chair will be taken by Dr. Louis C. Parkes. Tickets for admission of visitors may be obtained from Dr. J. Robertson, medical officer of health, Council House, Birmingham, who is acting as the local honorary secretary of the meeting, and of Mr. E. White Wallis, secretary of the Institute, 90, Buckingham Palace-road, London, S.W.

ABERDEEN MATERNITY HOSPITAL.—At the annual meeting of this hospital held on March 10th it was reported that many Approved Societies under the National Insurance Act were paying 10*s.* for cases treated in the hospital and 7*s.* 6*d.* for cases treated outside by the staff and visiting nurses. In this respect the Aberdeen Hospital seems to have fared better than any other of the Scottish hospitals. A movement was in progress to bring all the Scottish hospitals into line in relation to the Act. The number of cases treated in the hospital during the year was 185, a decrease of 56 on the previous year; in the patients' homes 111 cases, a decrease of 151 on the previous year, were treated. The falling off in numbers, especially of district cases, was undoubtedly the result of the Insurance Act, some of the outside patients being under the impression that if they went into hospital they would lose their money benefit. The maternity hospitals in Edinburgh, Glasgow, and Dundee had been affected proportionately in the same manner. Twenty-three nurses in training passed through the hospital during the year, all receiving their certificates. Forty-three students attended during the year and the amount received in fees was £135 9*s.*

NELSON HOSPITAL FOR WIMBLEDON AND MERTON.—The annual meeting of the supporters of this institution, being the new building of the South Wimbledon, Merton and District Cottage Hospital, was held on March 16th, when a very satisfactory report was presented. A comparison of the accounts of 1911, the last year in the old building, with 1913, the first year in the new, showed that the hospital's income had actually doubled, in accompaniment with the work done. In 1911 there were 14 beds and cots; in 1913, there were 26 The expenditure in 1911 for maintenance purposes was £673 0*s.* 9*d.*, in 1913 it was £1378 5*s.* 3*d.*, while the corresponding income had risen from £685 10*s.* 3*d.* to £1415 19*s.* 8*d.* In addition a sum of £1758 17*s.* 6*d.* had been received for the building fund. The need for extension has already become manifest, for although there are at present only 26 beds, on several occasions in 1913 28 patients have been accommodated. The supporters of the hospital are therefore urged to relax no effort in obtaining funds for the maintenance and the future enlargement of the hospital. The year 1914 has opened well, for already a cheque for £250 has been received towards endowment, and other promises have been made.

UNIVERSITY COLLEGE HOSPITAL.—The annual general meeting of members of the corporation of the hospital will be held on Tuesday, March 26th, in the board room, at 3 30 P.M. The agenda include the election of a President, Vice-Presidents, Treasurer, and other officers, and consideration of the reports upon the condition and prospects of the hospital and medical school respectively, and accounts of the income, expenditure, and property.

THE SPITAL SERMON.—The annual Spital Sermon will be preached at Christ's Church, Newgate-street, London, on Wednesday, April 22nd, at 3 o'clock, before the Lord Mayor and Corporation of the City of London and the governors of the five Royal Hospitals (St. Bartholomew's, St. Thomas's, Christ's, Bridewell, and Bethlem) The preacher will be the Right Rev. Watkin Herbert Williams, Bishop of Bangor.

THE VICTORIA HOSPITAL, BLACKPOOL.—An awkward situation has arisen at this hospital owing to the summary dismissal by a subcommittee of the board of management of the hospital of two nursing sisters who had given information, in answer to invitation, with regard to the food-supply to the residents in the institution. The medical board of the hospital, finding that the dismissal of the nurses had been too drastic, and considering them as having had no intention to be disloyal to the matron, asked the board of management to reconsider their course of action. This the board of management refused to do, and after an abortive conference between the subcommittee and the medical staff, four of the five members of the medical staff handed in their resignations, to take effect a month from that day—namely, Jan. 11th, 1914. One local practitioner was obtained to partly fill the gap, and a second who lived near was for a time enlisted. He has since resigned. The hospital with 80 beds and a corresponding out-patient department appears at present to be staffed by one of the original staff, and by his partner who has since been appointed to one of the vacancies, with the assistance of a new house surgeon. A meeting of the local practitioners at Blackpool has resulted in a resolution supporting the attitude of the resigning members of the medical staff. The local practitioners have pledged themselves not to accept any appointment at the hospital until there is a complete reorganisation of the board of management, while their resolution adds "that all future appointments should be open to the profession generally."

ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.—At the annual court of [illegible] of this institution recently held, with the Lord [illegible] Johnston Wallace) in the ch[illegible] charity, which was [illegible] upon the institution wer[illegible] Mayor pointed out that d[illegible] ber of [illegible] and that there was a waiting [illegible] ore the house committee [illegible] request for authority to [illegible] ds necessary to extend the hospital and to maintain it when extended. He foreshadowed a prospective appeal to the public for this purpose to the extent of £100,000. After the report had been adopted Mr. John Cairns moved a special resolution expressing strong disapproval of the proposal contained in Clause 1 of the Bill shortly to be presented to Parliament to extend the Truck Act, whereby an employer is prevented from making any deduction from the wages of workmen in respect of subscriptions or payments to any hospital. The resolution authorised the house committee to take such steps as seemed necessary to secure an amendment of the clause. Some £20,000 are provided annually by the workmen, and both the proposer of the resolution and his seconder made it clear that if the clause in the Bill were passed as it stood it would inflict a most serious blow on the infirmary. The resolution was carried unanimously. In the report itself it is stated that the average number of patients per day was 411·65, and the average stay 17·65 days. The attendances in the out-patient department were 101,736, as compared with 113,862 in 1912. The cost per patient was £4 10*s.* 11*d.*, as compared with £4 11*s.* 6*d.* in 1912, and the cost per occupied bed was £94 0*s.* 6*d.*, as against £89 6*s.* 2*d.*

ABERDEEN DISPENSARY.—At the annual meeting of the Aberdeen Dispensary held on March 10th it was reported that the number of cases dealt with had dropped by nearly 43½ per cent. since 1911. It was, therefore, agreed that the number of medical officers be reduced from six to five, the vacancy which fell to be filled at this time being left unfilled and the district rearranged to suit the new arrangement. The total number of cases treated at the dispensary during the year was 7387, compared with 9310 in the previous year. Attention was drawn to the decrease in the number of primary vaccinations performed during the year. The conscientious objectors' clause had led to an enormous reduction of vaccinated children throughout the country.

QUEEN'S HOSPITAL, BIRMINGHAM.—The seventy-third annual report of this institution for the year 1913 shows that there has been a reduction in the number of out-patients, of whom 31,674 were treated, as against 36,217 the previous year. This is accounted for by the number of trivial and less important cases which are now treated by panel doctors. The number of in-patients was 3013, or a small reduction over last year. The income was £10 847, against £11,868 in 1912 (which included a contribution of £1000). The expenditure was £17,554, as compared with £16,871 the previous year. The actual deficit on the year's working was £6707 0*s.* 2*d.* The hospital treated no fewer than 6249 insured persons as out-patients and 969 as in-patients. Most of these were sent to the hospital by panel doctors for special treatment or operation. It is stated in the report that during the year 58 subscribers withdrew, and 10 reduced their subscriptions, giving the Insurance Act as the reason.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Condition of the Blind.

AN Interdepartmental Committee is to be set up to inquire into the condition of the blind. This subject was discussed in the House of Commons on Wednesday, March 11th, and an interesting statement on it was made by Mr. HERBERT LEWIS, the Parliamentary Secretary to the Local Government Board, who spoke for the Government.

Mr. LEWIS in the course of his remarks said that honourable Members had been told that there were 34,000 blind persons in the United Kingdom. The number of blind people in proportion to the total population had shown a steady decrease since the year 1851. Women were less subject to blindness than men were except at a very advanced age. Of the whole population 760 out of every million males were blind, but the number amongst females was only a little over 700. Out of the total number of blind persons of the age of 10 years and upwards 35 per cent. of the men were occupied, as against only 9 per cent. of the women, and these figures showed that the need of finding occupation was much more acute in the case of the women than of the men. It had been said in the course of the debate that the only thing which the State had done for the blind was action in regard to the disease known as ophthalmia neonatorum. That statement did not cover the whole ground. Parliament had passed the Elementary Education (Blind and Deaf Children) Act, 1893, and it provided for the compulsory education of the blind from the ages of 5 to 16. Under that Act accommodation was provided for 2400 blind children at 41 day and residential schools, and there were more than 1900 on the registers of those schools. The Home Office had also done something to abate the evil of blindness. Optic neuritis was in the past a very frequent feature of lead poisoning in pottery work, but the Regulations which had been made by the Home Office requiring the removal of dust and periodical medical examination of the workers had been so effective that at present practically no cases of this kind at all had been reported. The Insurance Act would in the course of a few months enable a large number of blind people to receive benefit. The action of the Local Government Board in reference to the compulsory treatment of ophthalmia had been referred to. At present 36 per cent. of the blindness amongst school children was due to this disease. The action which had been taken by the municipalities under the voluntary powers which they possessed had been conducive to the very best possible results. Very few cases indeed occurred in which children were afflicted with blindness when proper precautions had been taken, and he trusted that the action of the Local Government Board to be taken at an early date would have the effect throughout the country of greatly lessening the suffering and loss of sight which this disease caused at the present time. With regard to the work of the Board of Education in preventing defective eyesight, let him say that school inspection had done a great deal in this direction. Extra guidance in the use of the eyes in school work had been given. Spectacles had been provided, and it would be agreed that preventive work of this kind was the very best description of work which the department could undertake. Having spoken of the excellent work done by voluntary institutions for the blind, he said that what the Government proposed to do at the earliest possible moment was to appoint an Interdepartmental Committee to consider the whole question of the condition of the blind. The necessity for such an inquiry would be admitted on all hands. The report on the Census for 1900 recommended that expert opinion should be taken as to what constituted blindness. From the inquiries which had been made prior to 1911 it appeared that there were many diverse opinions as to how blindness should be defined. A definition which had met with a certain amount of international acceptance and employment and must have therefore some degree of continuity was possible, but the English experts considered it inadequate to the requirements. That showed that it was obviously necessary in the first instance to inquire as to what the definition was. Then it was necessary to collect statistics which would have to be obtained from a variety of sources, and it would not be easy to obtain all the required information. For example, there were some charities which were partially for the blind and partially for other purposes. Then information would have to be ascertained with regard to the sufficiency of accommodation in the various institutions. The committee would have to make some estimate of the effect of the Insurance Act upon its work and would have to ascertain the number of old age pensioners who were blind. That information was not at present available from the Census returns. And there was also the important question whether some use could not be made, whether by means of correlation or otherwise, of the funds which were now in the hands of charities who at the present moment were doing their best to carry out their philanthropic duties in the best possible way. Parliament would require to have all this information and, he had no doubt, more information upon this question. He, however, wished to make it perfectly clear that this inquiry was not to be instituted with a view to postponing the consideration of the question, but rather with a view to expediting it. The inquiry would be set up at the earliest possible moment. He was bound to say on behalf of the Government that they could not anticipate what the findings of the committee would be, and they could not at the present moment give any undertaking on the points that would come within the scope of the inquiry.

The Navy and the Medical Professson.

Two points of medical interest are noted by Mr. CHURCHILL, the First Lord of the Admiralty, in his explanatory memorandum on the navy estimates. He mentions that a civilian oculist has been added to the medical consultative board to advise on questions arising as to the eyesight in the navy, and the services of Sir John Tweedy, F.R.C.S., have been secured for the first appointment. It is mentioned that a new branch of the Royal Naval Volunteer Reserve is being formed of medical students who have completed a certain portion of their training but are not fully qualified medical practitioners. These officers will be styled surgeon probationers, and it is hoped that will prove later on a valuable addition to the reserves of medical officers. The surgeons probationers will rank with sub-lieutenants R.N.V.R.

Assistants to Chemists and Druggiſts (Qualification) Bill.

Mr. GLYN-JONES has presented a Bill in the House of Commons "to make provision with regard to the compounding of medical prescriptions by assistants to persons, firms, or bodies corporate entitled to carry on the business of a chemist and druggist." It has been read a first time.

Nurses' Registration Bill.

The text of the Nurses' Registration Bill recently introduced by Dr. CHAPPLE in the House of Commons has been published. Its objects and aims have been embodied in a memorandum. That document states that hitherto no minimum standard of knowledge for professional nurses has been defined or enforced. The object of the Bill is to ensure that the community shall have a guarantee that the nurses they employ are skilled in their professional duties, and through standardisation to give security to the public that the services of fully qualified nurses shall be readily obtainable.

It is further explained in the memorandum that the Bill *establishes* a "General Council for the Registration of Nurses in the United Kingdom," composed of persons appointed by the Privy Council, the Local Government *Boards in the United* Kingdom, associations of registered medical practitioners, and direct representatives of the nursing profession.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 11TH.

School Clinics in Monmouthshire.

[illegible] officers showed that in a large percentage of cases the treatment afforded *had* been *effective*. The Monmouthshire education authority had established a clinic *at Newport for treating defects of the eyesight.* They had under consideration the establishment of further school clinics. It was estimated in the school medical officer's report for 1912 that the number of children in the area between seven and eight years with defective vision was 1294 out of 10,535, or 12·3 per cent., and that the number of children between five and eight years with defective teeth was 22,242 out of 22,683, or 98 per cent. He (Mr. Trevelyan) was, of course, not responsible for these figures, nor was he in a position to say how long it would take to deal with these cases.

Treatment of Tuberculous Patients.

Mr. HUME-WILLIAMS asked the President of the Local Government Board how many hospitals *or other institutions* intended for the care of the sick had been commandeered for the purpose of tuberculosis patients under the National Insurance Act; and what arrangements had been made for *the housing elsewhere of the patients for whose benefit those* institutions were intended at the time when they were so [illegible]
are rem [illegible]
required [illegible]

Avoiding Risk of Spreading Infection.

Mr. ASTOR asked the President of the Local Government Board to state in how many instances in the last three years had local authorities taken power through clauses in local Acts to compensate persons for giving up their employment at the request of the medical [illegible]
avoid the risk of spreading infec[illegible]
wrote in reply: Twelve local [illegible] three years obtained power by local Act to compensate persons for giving up their employment at the request of the council or of the medical officer of health for the purpose of preventing the spread of infectious disease. In addition seven local authorities have obtained power by local Act during the same period to compensate dairymen who cease to supply milk, and two to compensate common lodging-house keepers *for* the closing of their lodging-house under similar circumstances.

THURSDAY, MARCH 12TH.

Medical Inspection in Irish National Schools.

Mr. O'DONNELL asked the Chief Secretary to the Lord [illegible] only £263 2*s.* 6*d.* was spent, the balance being returned to [illegible] £5000 was voted, but [illegible]
[illegible] uned. The con-
[illegible] ntributed by the
[illegible] There has been
[illegible] nber of schemes
[illegible] n to believe that
[illegible] re is no power,
[illegible] *nty councils* the
[illegible] is purpose.

Accounts of London Panel Chemists.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member f[illegible] ing the
Insurance [illegible] ists in
the area of [illegible] en paid
their acco[illegible] BENN
replied: My right honourable friend is informed that no settlement has as yet been effected, but that advances have been made to the extent of over 80 per cent. of the bills presented, which have not all been checked.

[illegible] ay we take it for granted that
[illegible] n full finally?—Mr. WEDGWOOD
[illegible] the result will be until the accounts have been checked.

Boracic Acid in Cream.

[illegible] Board of Agriculture
[illegible] ion under Section 4
[illegible] fixing the limit of
[illegible] reserving cream at
[illegible] it., which was the amount recommended by the Departmental Committee (1901) on Preservatives for use in Butter.—Mr. RUNCIMAN answered: As at present advised I am not satisfied that it is *desirable in the public interest to make a regulation* defining the quantity of boracic acid which may be added to cream as a preservative. I am considering the matter in consultation with the President of the Local Government Board.

Mr. PETO: Is the right honourable gentleman aware and does he agree that he has complete power in this matter
[illegible] od and Drugs Act?—Mr.
[illegible] at notice to define exactly
[illegible] *g I did, I did in consulta-*
[illegible] Government Board.
[illegible] ble gentleman aware that
the supply of cream [illegible]
practically in a state [illegible]

Carriers of Infectious Disease.

Mr. ASTOR asked the Pres[illegible]
Board how many local auth[illegible]
to apply the provisions of [illegible]
tion) Acts to the first case [illegible]
occurring in a household c[illegible] the attention of the
[illegible] lifficulty experienced
[illegible] and had asked the
[illegible]
cough occur[illegible]
has made [illegible]
Legislation [illegible]
the proposal [illegible]
four or five [illegible]
Board's att[illegible] carriers of diphtheria, and the Devon county council has suggested that legislation should be promoted to enable sanitary authorities to treat carriers as persons suffering from infectious disease.

MONDAY, MARCH 16TH.

Institutional Treatment of Tuberculosis.

Replying to Mr. ASTOR, Mr. WEDGWOOD BENN said: The great majority of Insurance Committees have necessarily under their provisional arrangements availed themselves of the e[illegible] treatment outside their own areas.
Apar[illegible] modation
prov[illegible] rehensive
coun[illegible] naturally
and [illegible]

A Moneylender's Circular to Medical Men.

Mr. JOYNSON-HICKS asked the Chancellor of the Exchequer whether he was aware that within a few days of writing to the Insurance Commissioners for their overdue medical fees several doctors had received a circular from a firm of moneylenders offering loans to be met as payments were received from the National Insurance Commissioners, and whether he would take the most stringent steps to prevent the names of doctors who so wrote from getting into the hands of moneylenders.—Mr. LLOYD GEORGE wrote in reply: Payments to doctors on the panel are made by Insurance Committees [illegible]
I am satisfied that in [illegible]
the honourable meml[illegible]
in any way be connect[illegible]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN ROYAL INFIRMARY.—Second Assistant Ophthalmic Surgeon.

ANGLO-GERMAN HOSPITAL, Rosario, Argentina.—Resident Medical Officer. Salary £314 per annum; with rooms, board, laundry, &c.

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BENENDEN, KENT, NATIONAL SANATORIUM.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.

BETHLEM HOSPITAL.—TwoResident House Physicians. unmarried, for six months. Salary at rate of £25 each per quarter, with apartments, board, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRKENHEAD UNION.—Resident Assistant Medical Officer. Salary £120 per annum, with board, apartments, &c.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for six months in Electrical Department. Salary at rate of 52 guineas per annum.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians, House Surgeon, and Obstetric and Ophthalmic House Surgeon for six months. Salary at rate of £50 per annum, with board, lodgings, and washing.

BIRMINGHAM UNION.—SELLY OAK INFIRMARY: Resident Assistant Medical Officer. Salary £160 per annum. DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £140 per annum, with apartments, rations, laundry, and attendance.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Two House Surgeons for six months. Salary £75 per annum, with board, residence, and laundry.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months, unmarried. Salary £100 per annum, with board, lodging, and washing.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRADFORD UNION, EASTBY SANATORIUM, near Skipton.—Assistant Resident Medical Officer (female), unmarried. Salary £130 per annum, with rations, apartments, and laundry.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried. Salary at rate of £125 per annum, with board, lodging, and washing.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House Surgeon for six months, unmarried. Salary £80 per annum, with apartments, board, attendance, &c.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at rate of £150 per annum.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BRISTOL GENERAL HOSPITAL.—Anæsthetist two days a week for six months in Dental Department. Salary £15.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Physician. Salary £80 per annum, with board, rooms, attendance, and laundry.

BRISTOL ROYAL INFIRMARY.—Two House Surgeons, House Physician, and Throat, Nose, and Ear House Surgeon, all for six months. Salaries at rate of £100 per annum, with board, apartments, and laundry.

BURLEY-IN-WHARFEDALE, SCALEBOR PARK ASYLUM.—Assistant Medical Officer. Salary £220 per annum, with board, apartments, attendance, &c.

BURNLEY UNION WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, rations, washing, and attendance.

CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum. Also Surgeon.

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £120 per annum, with board, lodgings, and laundry.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and washing.

DONCASTER ROYAL INFIRMARY AND DISPENSARY.—Assistant House Surgeon. Salary £100 per annum, with board, apartments, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Senior and Junior House Surgeon. Salaries £100 and £65 per annum respectively, with board and washing.

DUMFRIES, CRICHTON ROYAL MENTAL HOSPITAL.—Locum Tenens for six months. Salary at rate of 5 guineas per week, with board, lodging, laundry, and attendance.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Clinical Assistants in Out-patient Departments.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

FOLKESTONE, ROYAL VICTORIA HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Surgeon.

GREAT YARMOUTH HOSPITAL.—House Surgeon. unmarried. Salary £140 per annum, with board, lodging, and washing.

GROSVENOR HOSPITAL FOR WOMEN, Vincent-square, Westminster, S.W.—Honorary Assistant General Surgeon.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £30 per annum respectively, with residence, board, and washing.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £80 per annum, with residence, board, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 40, Grove End-road, N.W.—Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with rooms, board, laundry, and attendance.

HULL ROYAL INFIRMARY.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

HULL WORKHOUSE INFIRMARY, Beverley-road.—Resident Assistant Medical Officer. Salary at rate of £170 per annum, with board and other usual allowances.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salaries at rate of £80 per annum, with board, apartments, and washing.

MACCLESFIELD, CHESHIRE COUNTY ASYLUM, Parkside.—Locum Tenens for three or four months. Salary 4 guineas per week, with board, lodging, and washing.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried.. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER, ANCOATS HOSPITAL, Mill-street.—Three Anæsthetists two mornings per week. Salary £20 per annum each.

MANCHESTER ROYAL INFIRMARY.—Assistant Surgical Officer. Also Assistant Medical Officer. Salary £35 per annum each.

MANCHESTER ROYAL INFIRMARY, CONVALESCENT HOSPITAL, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Dental Surgeon.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £65 per annum, with board, residence, and laundry.

MONTREAL, ROYAL VICTORIA HOSPITAL.—Pathologist.

MUKTESAR, INDIA, IMPERIAL BACTERIOLOGICAL LABORATORY.—Pathologist. Salary £560 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NOTTS EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

PARISH OF SAINT LEONARD INFIRMARY AND WORKHOUSE, Shoreditch.—Resident Senior Assistant Medical Officer. Salary £200 per annum, with rations, apartments, and washing.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary £225 per annum, with board, apartments, attendance, and washing.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Pathologist and Registrar. Salary £200 per annum, with lunch. Also House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £71 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E C.—Honorary Anæsthetist.

ST. ALBANS, MIDDLESEX COUNTY ASYLUM, Napsbury.—Junior Assistant Medical Officer. Salary £250 per annum, with board, lodging, washing, and attendance.

ST. HELENA.—Assistant to Colonial Surgeon. Salary £250 per annum, partly furnished quarters, horse, and forage. FALKLAND ISLANDS: Assistant Colonial Surgeon. Salary £300 per annum, with unfurnished quarters.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, lodging, and washing.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Salary £15 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SEAMAN'S HOSPITAL SOCIETY.—DREADNOUGHT HOSPITAL, Greenwich: Medical Registrar. Salary £100 per annum, with luncheon. Also Two House Physicians and Two House Surgeons for six months. Salary £50 per annum each, with board, residence, and washing. ALBERT DOCK HOSPITAL, Connaught-road, E.: House Surgeon and House Surgeon to Out-patients for six months. Salary £75 per annum each, with board, residence, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—Female House Surgeon for Out patient Department only. Salary £75 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon and Ophthalmic House Surgeon for six months Salary £80 per annum each, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

SOUTHWARK UNION INFIRMARY, East Dulwich grove S E—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £120 per annum each, with board, lodging, and washing

SUNDERLAND BOROUGH ASYLUM, Ryhope—Assistant Medical Officer. Salary £200 per annum.

SUNDERLAND ROYAL INFIRMARY.—House Physician and Junior House Surgeon. Salary £120 per annum, with board, residence, and laundry.

SURREY COUNTY COUNCIL, SURREY EDUCATION COMMITTEE—Medical Practitioners specialising in Ophthalmic Surgery for appointments as Oculists. Salary at rate of 1 guinea for each school session of about two hours.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c

WAKEFIELD, CARDIGAN SANATORIUM—Assistant Medical Officer Salary £250 per annum, with partial board

WAKEFIELD GENERAL HOSPITAL—Second House Surgeon, unmarried Salary £100 per annum, with board, lodging, and washing

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck street, W.—Resident House Physician for six months Salary at rate of £90 per annum

WESTERN DISPENSARY, 38, Rochester row, Westminster.—Resident Medical Officer. Salary £75 per annum, with apartments, attendance, &c.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford—Junior House Physician Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith road, W.—Honorary Medical Registrar.

WEST RIDING COUNTY COUNCIL—School Medical Inspector. Salary £325 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon Salary £100 per annum, with board, apartments, and washing

WILTS COUNTY COUNCIL.—Assistant School Medical Inspector Salary £300 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY—House Surgeon Salary £90 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also House Surgeon Salary in each case £125 per annum, with board, rooms, and laundry

WOOLWICH INFIRMARY, Plumstead—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

THE Chief Inspector of Factories, Home Office, London, S W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Crewkerne, in the county of Somerset, and at St Just, in the county of Cornwall,

Births, Marriages, and Deaths.

BIRTHS.

BERRY—On March 16th, at 231, Shrewsbury road, Forest Gate, the wife of William A. Berry, M B, of a daughter

PORTER—On March 10th, at St James s road, Surbiton, the wife of George Porter, M D, of a son

SHATTOCK—On March 12th, at Saville House, Sutton Court road, Chiswick, the wife of Chas R Shattock, M R C S, L R.C P., L D S., of a daughter

MARRIAGES

KEIR—OAKEY—On March 10th, at St Mary's Parish Church, Eastbourne, Ivan Cochrane Keir, M D, to Olive Madeline Oakey youngest daughter of the late John and Sophia Oakey, of Surbiton and Folkestone

DEATHS

DEWAR—On March 11th, at his residence, 56 Fernleaf street Moss Side, Manchester, James Dewar, F R C S Edin, in his 78th year

ELLIOT.—On March 16th, after a short illness, George Stokoe Elliot, M.D, F R C S E, of Southwell, Notts, in his 77th year

HAWKINS—Very suddenly, at 73, London street, Reading, Francis Henry Hawkins, M.D, M.R.C P.

HERMAN.—On March 11th, at Cam, Gloucestershire, George Ernest Herman, M B, F R C P, late of Harley street, W., aged 65

PRITCHARD—On March 13th at "Holmby," Albert road, Bognor, Trevor John Pritchard, M B

N. B—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

HEALTH OF THE LEEWARD ISLANDS.

IN his report for 1912–13, just received at the Colonial Office, the Governor (Sir H. Hesketh Bell, K.C M G.) states that the year under review was fortunately free from all atmospheric disturbances, and was only marred by an inadequate rainfall. The general health of the population was good, though much still remains to be done for the im- [illegible] litions among the labouring [illegible] of females is very marked in [illegible] umbering only 55,000, as com- [illegible] us of 1911 [illegible] Barbuda, [illegible] lla, 4075; Dominica, [illegible] 1; Virgin Islands, 556 [illegible] patients (as against [illegible] itted into the hospitals of the colony, and there were 384 deaths, as against 348 for 1911. There are two leper asylums in the colony—one at Rat Island, in Antigua, and the other at Fort Charles, in St Kitts In the former there were 33 lepers (15 males and 18 females) at the beginning of the year; 1 male and 2 females were admitted during the year, and 3 females died. There is no record in Antigua of any [illegible] d leprosy. The [illegible] Dominica, sup- [illegible] maintained on an average 10 paupers [illegible] ministrator of St. Kitts [illegible] ate was 38 46 and the [illegible] atients treated in the [illegible] ver and 56 from yaws. [illegible] health of the popula- [illegible] he year, but there is [illegible] infants notwithstand- [illegible] to instruct parents in [illegible] For those—Europeans [illegible] d the elementary laws [illegible] hy as any part of the [illegible] months is delightful." [illegible] sioner of Montserrat, gives the birth-rate there as 34 03 and the death rate as 13 97 per 1000; and in [illegible] Mr. T. L. E. Clarke, M I [illegible] the birth-rate was 38 and [illegible]

THE MILWARD FUND.

To the Editor of THE LANCET.

SIR,—Since the list was published in your columns a subscription of 5 guineas has been received from Mr. W. Sampson Handley, London—I am, Sir, yours faithfully,

WILLIAM SHEEN, Honorary Treasurer.

Cardiff, March 14th, 1914

THE FROG AS INTESTINAL SCAVENGER.

To the Editor of THE LANCET.

SIR,—The gleanings of Mr E. A. Rawlence among the farmfolk of Dorset, mentioned in your last issue, bring to mind that my brother a few years ago, visiting a kinsman in a lonely farmhouse among the Welsh hills and finding him [illegible]

I am, Sir, yours faithfully,

BRYCHEINIOG.

March 14th, 1914

RECUMBENT INVALID LIFTERS.

A CATALOGUE issued by Mr. Skeffington, of Ulundi-road, Blackheath, S E, illustrates several of his useful contrivances, some of which are in use in our various hospitals and institutions, for dealing with invalids who are compelled to adopt a recumbent position. The invalid lifters are made in several types, and by their means, amongst other advantages, a patient can be prevented from slipping down towards the foot of the bed, thereby avoiding the difficulty, especially with a heavy patient, of getting him back again into a comfortable position; an invalid can be raised into a sitting posture, and there maintained, without exertion on his part or on the part of the nurse or attendant, for any period desired; a patient can be lifted, as on a hammock, bodily above the bed, so that the bed can be re-made underneath or a bed-pan be placed in position; a soiled sheet can be changed without distressing the patient or causing any loss of muscular energy, and without turning the patient on one side, as is customary; a typhoid patient can be given a bath by lowering him in his sheet into a collapsible bath placed on the bed; and a patient can be placed in practically any desired position without having recourse to the more or less dangerous practice of "tilting" the bedstead. These invalid lifters, which were awarded a gold medal at the recent International Congress of Medicine, can be hired or purchased outright; and anyone who has to do with a case in which the patient has to adopt a recumbent position will be interested in this catalogue of practical appliances for the comfort and convenience of invalid and nurse.

J. A. S.—Insured persons have the right to change their source of medical treatment at the end of the year. The regulations are elaborate and our correspondent should study them. They can be purchased through any bookseller for 3½*d*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London W.

THURSDAY.—Mr. J. H. Mummery: On the Nature of the Tubes in Marsupial Enamel and its Bearing upon Enamel Development (communicated by Prof. J. Symington).—Mr. W. T. Lockett: Oxidation of Thiosulphate by Certain Bacteria in Pure Culture (communicated by Prof. P. F. Frankland).—Mr. A. E. Everest: The Production of Anthocyanins and Anthocyanidins (communicated by Prof. F. Keeble).—Mr. A. J. Walton: Variations in the Growth of Adult Mammalian Tissue in Autogenous and Homogeneous Plasma (communicated by Prof. W. Bulloch).—Mr. E. C. Grey: (1) The Decomposition of Formates by B. Coli Communis; (2) The Enzymes which are Concerned in the Decomposition of Glucose and Mannitol by B. Coli Communis (communicated by Dr. A. Harden).—Surgeon-General Sir D. Bruce, Major A. E. Hamerton, Captain D. P. Watson, and Lady Bruce: Description of a Strain of Trypanosoma Brucei from Zululand—Part I., Morphology; Part II., Susceptibility of Animals.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS: at 5 P.M.

Lecture:

Surgeon-General Gorgas on his Work at Panama.

SECTION OF ODONTOLOGY (Hon. Secretaries—Robert McKay, F. Coleman): at 8 P.M.

Paper:

Dr. T. J. Horder: Dental Sepsis from the Point of View of the Physician.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—H. Batty Shaw, John Fawcett): at 5.30 P.M.

Papers:

Dr. J. A. D. Radcliffe and Dr. D. L. V. de Wesselow: The Diagnosis of Pulmonary Tuberculosis.

Professor Theodore Schott (Nauheim): Recent Investigations on the Changes induced in the Circulatory Apparatus by Physical Methods of Treatment.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 8.30 P.M.

Special Meeting (in conjunction with the BRITISH PSYCHOLOGICAL SOCIETY).

Paper:

Dr. H. Devine: The Biological Significance of Delusions.

Discussion:

On Dr. R. G. Rows' paper—The Importance of Disturbances of the Personality in Mental Disorders.

THURSDAY.

SECTION OF NEUROLOGY (Hon. Secretaries—T. Grainger Stewart, H. Campbell Thomson): at 8.30 P.M.

Paper:

Dr. David Orr and Dr. R. G. Rows: Experimental Infection of the Central Nervous System (with lantern demonstration).

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, W. J. Midelton): at 4.30 P.M.

Cases:

Dr. E. A. Cockayne: (1) Ocular Torticollis; (2) Defective Development of Vertebræ and Ribs.

Mr. C. Max Page: (1) Hirschsprung's Disease; (2) Two Cases of Achondroplasia.

Dr. R. A. Chisolm: Spastic Diplegia.

Mr. Philip Turner: Multiple Exostoses.

Dr. J. Walter Carr: Specimen of Cirrhotic Liver with Perihepatitis.

Dr. F. G. Crookshank: (1) Congenital Heart Disease (? Patent Ductus Botalli and Pulmonary Stenosis); (2) Case of "Murmur."

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Paper:

Mr. Major Greenwood, jun., and Mrs. Frances Wood: Changes in the Recorded Mortality from Cancer and their Possible Interpretation.

MEDICAL SOCIETY OF LONDON, 11, Chandos street, Cavendish-square, W.

MONDAY.—8.30 P.M., Sir StClair Thomson: Three Years' Sanatorium Experience of Laryngeal T[illegible] Tonsils and Adenoids in Child[illegible]

PLYMOUTH MEDICAL SOCIETY, Athenæum Chambers, Athenæum-lane, Plymouth.

WEDNESDAY.—8 P.M., Clinical Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Lumleian Lecture: Dr. J. A. Ormerod: Some Modern Theories concerning Hysteria. (Lectures II. and III)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies street, W.C.

MONDAY.—4 P.M., Dr. G. N. Meachen: Clinique (Skin). 5.15 P.M., Lecture:—Dr. N. Pitt: Intrathoracic Aneurysm.

TUESDAY.—4 P.M., Dr. E. B. Smith: Clinique (Medical). 5.15 P.M., Lecture:—Dr. T. G. Stevens: The Operative Treatment of Uterine Displacements.

WEDNESDAY.—4 P.M., Mr. M. Heath: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Donelan: Some Forms of Nasal Obstruction and their Consequences.

THURSDAY.—4 P.M., Mr. E. R. Carling: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. McClure: The Serum Treatment of Consumption.

FRIDAY.—4 P.M., Mr. H. Tilley: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Suppuration.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein [illegible] 2 P.M., Medical and Surgical Clin[illegible] Operations. Dr. Pritchard: B[illegible] 2.30 P.M., Mr. Dunn: Diseas[illegible]:—Dr. Bernstein: Diseases of the Blood.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Bernstein: Diseases of the Blood.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., [illegible] Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical [illegible] Gynæcological (Dr. Banister). [illegible] R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological [illegible] (Dr. A. E. Giles). [illegible] Clinics:—Medical Out-patient (D[illegible] (Mr. Carson); [illegible]

FRIDAY.—2.30 P.M. [illegible] Out-patient (Dr. A. G. Aul[illegible] Eye (Mr. R. P. Brooks). 3 P.M., [illegible] ppel).

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON). Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Syphilology:—

TUESDAY, WEDNESDAY, AND FRIDAY.—4.15 P.M., Dr. H. Head: The Nervous System.

The Schorstein Memorial Lectures (in the Anatomical Theatre):—

THURSDAY.—4.15 P.M., Dr. H. Head: The Clinical Aspect of Syphilis of the Nervous System.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Habershon: The Diagnosis of Early Pulmonary Tuberculosis.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

FRIDAY.—5 P.M., Lecture-Demonstration:—Dr. M. Leslie: Pleurisy.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

MONDAY.—4 P.M., Demonstration:—Dr. A. E. Gow: Medical Cases.

[illegible] EAR HOSPITAL, Gray's [illegible]

[illegible] Diseases of the Larynx [illegible] and Fallacies regarding [illegible]

CANCER HOSPITAL Museum of the Hospital, Brompton, S W

Post Graduate Lectures on the Diagnosis and Treatment of Cancer —
WEDNESDAY.—5 P M , Mr Knox The Roentgen Diagnosis of Internal Growths

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture *Room* of the Institute, 37, Russell square, W C

Course of Instruction for Tuberculosis Officers School Medical Officers, Medical Practitioners &c —
FRIDAY —5 P M , The Diagnosis and Treatment of Tuberculosis &c — Lecture XI —Dr H O West A Co ordinated Scheme

MANCHESTER HOSPITALS POST GRADUATE CLINICS

TUESDAY —SALFORD ROYAL HOSPITAL —4 30 P M , Dr Heywood [illegible] estmacott : Sup [illegible] Melland Some Slight Ailments

FRIDAY —ROYAL EYE HOSPITAL—4 30 P M , Dr H H McNabb Cases for Diagnosis

For further particulars of the above Lectures, &c , see Advertisement Pages

A DIARY OF CONGRESSES

THE following Congresses Conferences and Exhibitions are announced In 1914 —

[illegible]

" 15th-18th (Berlin) —Forty third Congress of the German Surgical Society
" 19th-21st (Berlin) — 'Jubilee Congress of the German Röntgen Society
" 20th 23rd (Wiesbaden) —Thirty first German Congress for Internal Medicine
" 27th-May 1st (London, Royal Horticultural Hall) —Nursing Conference and Exhibition
May 1st-Nov 1st (Lyons) —International Town Hygiene Exhibition
May (London Imperial Institute) —Victoria League Imperial Health Conference
May October (London, Shepherd's Bush) —Anglo-American Exposition
June 18th-24th (London, Church House Westminster) —International Conference on the Blind
July 6th 11th (Blackpool) —Twenty ninth Congress of the Royal Sanitary Institute
" 8th-10th (Oxford) —Ophthalmological Congress
" 8th-13th (Edinburgh) —Congress of the Royal Institute of Public Health
" 21st-23rd (Chester) —British Pharmaceutical Conference
" 27th-31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America
" 28th-31st (Aberdeen) —Eighty second Annual Meeting of the British Medical Association
Aug 3rd-8th (London) —Sixth International Dental Congress
" 10th-15th (St Petersburg) —Twelfth International Congress of Ophthalmology
Sept 7th-12th (Berne) —International Congress for Neurology Psychiatry, and Psychology

METEOROLOGICAL READINGS.

(*Taken daily at 8 30 a m by Steward's Instruments*)

THE LANCET Office March 18th 1914

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	*Remarks*
Mar 12	29 63	S W	0 30	91	57	34	47	47	Overcast
" 13	30 00	S W	0 10	64	55	46	47	47	Raining
" 14	29 52	S	0 15	79	57	47	48	49	Cloudy
" 15	29 79	W	0 13	83	60	47	46	48	Cloudy
" 16	29 25	W	0 34	61	47	45	42	46	Raining
" 17	29 97	N W	0 01	89	52	37	38	40	Fine
" 18	29 23	S W	0 0[illegible]	83	49	40	41	41	Raining

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR" and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention should be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed " To the Sub Editor "

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed " To the Manager "*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title page to Vol II of 1913 were given in THE LANCET of Dec 27th, 1913

VOLUMES AND CASES

VOLUMES for the second half of the year 1913 are now ready Bound in cloth, gilt lettered, price 16*s* , carriage extra

Cases for binding the half year's numbers are also ready Cloth, gilt lettered, price 2*s* , by post 2*s* 3*d*

To be obtained on application to the Manager, accompanied by remittance

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Subscriptions (which may commence at any time) are payable in advance Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch) should be made payable to the Manager, Mr CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W C.

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[illegible]

Cyclopedia Peru To-Day, &c

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Hunterian Lecture

ON

THE PHYSIOLOGY AND PATHOLOGY OF UTERINE HÆMORRHAGE.

Delivered before the Royal College of Surgeons of England on Feb. 13th, 1914,

By H. BECKWITH WHITEHOUSE, M.B.,
M.S. Lond., F.R.C.S. Eng.,

HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS, ENGLAND; HONORARY ASSISTANT GYNÆCOLOGIST AND ASSISTANT CLINICAL LECTURER ON DISEASES OF WOMEN, GENERAL HOSPITAL, BIRMINGHAM, ETC.

(*With Illustrative Plates.*)

Mr. President, Ladies, and Gentlemen,—My first pleasant duty is to thank you for the honour you have conferred upon me in appointing me one of your Hunterian professors for the current year.

INTRODUCTION.

In selecting Uterine Hæmorrhage as the subject of this lecture I have been guided mainly by two factors. In the first place, it affords me the opportunity of placing before you the results of some researches in which I have been engaged. Secondly, the present appears to be an appropriate time for discussing some of the older views upon uterine bleeding based principally upon clinical observation, in the light of that more exact knowledge which scientific study and laboratory experiment have placed at our disposal.

John Hunter himself was much interested in the phenomena associated with the blood and its coagulation, as is shown by the publication in 1792 of his "Treatise on the Blood." This fact in itself provides another very good reason why we should choose that organ of the body where hæmorrhage is not only a pathological but a physiological function to form the basis of a lecture founded in his memory.

Uterine hæmorrhage, however, in all its varied aspects is far too large a question to take up in the time at my disposal. I propose, therefore, to limit remarks upon pathological bleeding to its incidence apart from pregnancy and uterine neoplasms. Such hæmorrhage is sometimes termed idiopathic, to denote the absence of gross physical signs. A clear understanding of the facts underlying pathological bleeding must rest upon a true interpretation of the phenomena associated with physiological hæmorrhage, and therefore the first portion of the lecture is devoted to facts concerned with the etiology and physiology of the function known as menstruation.

PHYSIOLOGICAL UTERINE HÆMORRHAGE.

The Relation of Menstruation to Pro-œstrum.

Matthews Duncan once observed that "menstruation is like the red flag outside an auction sale. It shows that something is going on inside." This is obviously true, but we may pause to ask whether such bleeding is physiologically necessary to the sexual economy. A comparative study of the mammalia shows that uterine hæmorrhage is by no means an essential but merely a concomitant of the sexual cycle and is associated with those anatomical changes to which Heape has applied the name of pro-œstrum. There is abundant evidence that a phenomenon in all essentials identical with menstruation in the human female occurs in the case of the lower mammals. Attention was first drawn to the similarity between menstruation and pro-œstrum by Wiltshire in 1883. More recently the excellent work of Heape and Marshall and Jolly have confirmed the views originally set forth.

It is not my wish to go into detail upon this subject, which has been so admirably treated by other workers. It is sufficient to point out that in most animals the stage of pro-œstrum is marked *by the presence of a discharge from the generative* canal. In some, such as the rabbit and the rat, this discharge consists simply of the secretion of the uterine glands with a small quantity of degenerated epithelium. In others, of which the cow, mare, sheep, goat, pig, and cat are examples, this discharge is occasionally mixed with blood. Domesticity and high breeding tend to increase both the frequency of the sexual cycles and the amount of the attendant bleeding. Thus, in the bitch a well-marked hæmorrhagic discharge is almost invariably present during pro-œstrum, and the blood is as concentrated as that recorded for monkeys. In works upon veterinary science numerous references both to physiological and pathological bleeding in the case of animals are to be found. Fleming, for example, observes that in the case of the cow "the hæmorrhagic flow appears two or three days after the commencement of rutting. The amount of blood does not exceed one or two ounces, and the coagulated clot remains in the vagina until it is expelled with the urine."

In the case of the primates the recognition of a regular and periodical menstrual discharge is of great antiquity. In fact, it is recorded by Dr. Mead that the ancient Egyptians painted the cynocephalus *to represent the moon* "*upon account of a certain* sympathy whereby the female of this animal has evacuations of blood from the uterus at the new and full moon." The subject of menstruation in the higher apes has been fully investigated by Heape, and his researches prove clearly that the pro œstrum of primates is identical in kind with that of other mammals and is analogous to menstruation in the human female. The differences observed in individual species are only *one of degree, relating* either to occasional or regular rupture of vessels in the uterine mucosa, and partial or complete denudation of the latter. A comparative study of pro œstrum from the lowest to the highest mammals shows a progressive development until in the primates and the human female the function reaches its highest state of development. Periodical uterine hæmorrhage is, in fact, one of the sacrifices which women must offer at the altar of *evolution and civilisation.*

The Menstrual Clot.

A study of the changes through which the uterus passes at each pro-œstrum reveals the interesting fact that in the great majority of those animals where this stage is characterised by a flow of blood from the endometrium, a definite and well-marked clot is formed in the body of the uterus. In fact, Heape, in his classification of the internal phenomena of pro-œstrum, accords the *formation* of the menstrual clot a definite place as one of the essential stages. In the case of the monkey he observes that "with the blood which is poured out from the ruptured lacunæ is mixed always degenerated epithelial cells, together with stroma tissue and the superficial portion of the uterine glands, the whole forming a more or less dense clot which in some cases entirely fills the uterine cavity. During the period of recuperation this clot is expelled." This is the case also in lemurs, but in the bitch no blood clot is formed. The physiological phenomena and anatomical appearances of the endometrium during pro-œstrum in the latter animal have been investigated in detail by Retterer, who notes that extravasation of blood in the mucosa occurs, but there is no denudation of the epithelium. It is a point of some interest, therefore, that a clot occurs where there is destruction of epithelium, or, in other words, where a definite breach of surface exists.

Menstrual Discharge in the Human Female.

As is well known, the normal menstrual discharge when it escapes from the vulva is a dark-red fluid containing epithelial débris, degenerate uterine glands, and leucocytes. It is usually stated that the blood does not clot. By some this is supposed to be due to dilution with the uterine and cervical secretions. It has also been stated that the mucous secretion from the cervix is the cause of the non-coagulation of the menstrual blood. In 1912 Blair Bell published a detailed analysis of retained menstrual fluid obtained from 12 cases of hæmatocolpos. In this material he found that fibrinogen and fibrin were absent, and therefore attributed the non-coagulation of menstrual blood to the absence of these constituents. On the other hand, in August, 1913, in a paper read before the Seventeenth International Congress of Medicine, J. Riddle Goffe attempted to show that the absence of coagulation was due to the presence of antithrombin in the menstrual blood. It is evident, therefore, that, although the fact of non-coagulation has been accepted, opinions are divided as to its causation.

A fluid similar in general appearance to that contained in hæmatocolpos is the coffee-coloured content of ovarian blood cysts. I therefore had a similar analysis made upon this material, and found that both fibrinogen and fibrin were again absent. A hæmoglobin derivative and very degenerated red cells were present, showing that the material primarily contained blood. A striking difference between the two fluids was the entire absence of calcium salts in the contents of the blood cyst and the superabundance of the same in hæmatocolpos fluid, as shown by Blair Bell. In the contents of an ovarian blood cyst that I recently investigated a small solid mass was present in the brown grumous fluid. This was investigated for fibrin by Weigert's method of staining, and small traces of this substance were present. In the rest of the fluid fibrin was absent. I am therefore led to the proposition that in the living body an enzyme or substance of this nature exists which has the power of digesting fibrin and breaking down blood clot. I hope to show, moreover, that a similar body or "fibrinolysin" plays a very important rôle both in the physiology and pathology of uterine hæmorrhage.

Since the formation of a menstrual clot is such a usual and common phenomenon amongst other species of mammalia, it was a matter of surprise to me that such should not be the case with the human female. The first investigation that I made, therefore, was to institute an inquiry amongst women as to the frequency with which they themselves had noted, at some time or other, the occurrence of clots or solid material in the normal menstrual discharge. The menstrual histories of 120 apparently healthy women were [illegible] and of these 62 acknowledged that either occasionally or regularly they noted "clots" in [illegible] fluid. As a general rule these clots were [illegible] and unless a definite inquiry was made the fact [illegible] not observed by the patient, who usually [illegible] that "the fluid did not clot." From this [illegible] therefore, approximately 50 per cent. of [illegible] normally note the presence of clots in the discharge. The existence of these clots in the fluid proves that all the machinery for the coagulation of blood is complete.

It may not be out of place, in view of the [illegible] to follow, to state briefly the current [illegible] concerning the clotting of blood. [illegible] Morawitz showed that normal blood plasma [illegible] a globulin, fibrinogen, together with calcium [illegible] and a substance of unknown composition [illegible] prothrombin or thrombogen. The [illegible] is [illegible] condition of adsorption in the fibrinogen [illegible] When blood leaves the vessels and is brought into direct contact with tissue cells it encounters a body known as thrombokinase. This substance, which varies in amount in different tissues, promotes the union of thrombogen and calcium salts to produce thrombin. The latter then exercises a quantitative action upon the fibrinogen, converting it into fibrin, the proteid which forms the organic basis of all clot. Excess of thrombin is inactivated by a hypothetical body called antithrombin normally circulating in healthy blood. It is obvious therefore that deficient or delayed coagulation may be produced by the individual absence of fibrinogen, prothrombin, calcium salts, thrombokinase, or excess of antithrombin.

An attempt to demonstrate the presence of excessive antithrombin in the non-menstruating [illegible] menstruating endometrium and also [illegible] menstrual fluid, failed in every case in [illegible] experiments which I undertook in conjunction with Dr. Gwynne Maitland, lecturer on physiology [illegible] versity of Birmingham. The results of [illegible] experiments are detailed in Table I. [illegible] vinced us that excess of antithrombin is [illegible] cause of non-coagulability of menstrual fluid.

The occurrence of a well marked clot in [illegible] these experiments points to the absence of antithrombin either in the endometrium [illegible] secretion. Menstrual blood [illegible] for experimental purposes [illegible] the vagina by placing the blades of a Sims's speculum into the posterior [illegible] the patient lying in the Sims's [illegible] From material thus collected I have been able to convince myself that, although small clots are not infrequently present in the discharge, in the majority of cases the material is quite fluid and in essential details coincides with the analysis given by Blair Bell in the case of hæmatocolpos fluid. The points to which particular [illegible] are: (*a*) the absence of fibrin; (*b*) [illegible] of fibrinogen; (*c*) the high proportion of calcium salts; and (*d*) the large number of leucocytes and occasionally lymphocytes scattered amongst the degenerated cells of the uterine epithelium and glandular débris. Normal menstrual blood in the vagina is faintly alkaline, and gives the spectrum of oxyhæmoglobin. Hæmolysis is practically always present.

Material collected in the vagina, however, has very different characters from that taken directly from the uterus. In the first place, I venture to assert that *with the healthy and normal* *endometrium clotting always takes place within the uterine cavity.* This fact became evident to me when attempting to obtain menstrual fluid unmixed with the secretion from the cervical glands. The technique employed was as follows. The patient was placed in the semi-prone position and the posterior vaginal wall retracted with the broad blade of a Sims's speculum. The anterior lip of the cervix was seized with volsellum forceps and the cervix sterilised by iodine. A glass catheter of the shape and size indicated in Fig. 1 was introduced through the cervical canal into the corpus uteri. Where hæmorrhage is in progress this is a procedure of the greatest ease, and if the periodic flow is well established blood flows slowly into the tube. Within a few seconds, however, the stream ceases and an examination of the tube shows that the lumen is blocked by blood clot. Altogether 30 cases of normal menstruation have been examined by this means, usually upon the second day of the period when the flow is greatest, and in every case thrombus has been present in greater or less amount in the uterine cavity. In only 8 of these cases could fibrin be demonstrated in the blood present in the vagina. These details are represented in tabular form in Table II.

TABLE I.—*Showing Results of Experiments undertaken to Ascertain Presence of Antithrombin in Menstrual Blood and the Endometrium.*

Series 1.

Experiment.	Curettings.	Human blood.	Coagulation.	Coagulation time.
	(Menstruating.)			
1	¼ vol.	1 c c.	+	3 min.
2	¼ ,,	1 ,,	+	3½ ,,
3	½ ,,	1 ,,	+	2½ ,,
4	½ ,,	1 ,,	+	3 ,,
	(Non menstruating.)			
5	¼ vol.	1 ,,	+	4 ,,
6	¼ ,,	1 ,,	+	3½ ,,
7	½ ,,	1 ,,	+	5 ,,
8	½ ,,	1 ,,	+	4 ,,
9	— Control.	2 ,,	+	6½ ,,
10	— ,,	2 ,,	+	5½ ,,

Series 2.

Experiment	Filtrate from saline extract of endometrium.	Oxalate *ox blood* + $CaCl_2$.	Coagulation.	Coagulation time.
	(Human, menstruating.)			
1	2 vols.	1 c c.	+	6 min.
2	Equal vol.	1 ,,	+	6 ,,
3	½ vol.	1 ,,	+	5½ ,,
	(Human, non menstruating).			
4	2 vols.	1 ,,	+	6 ,,
5	Equal vol.	1 ,,	+	5½ ,,
6	½ vol.	1 ,,	+	5 ,,
7	— Control.	1 ,,	+	6 ,,
8	— ,,	1 ,,	+	6½ ,,

Series 3.

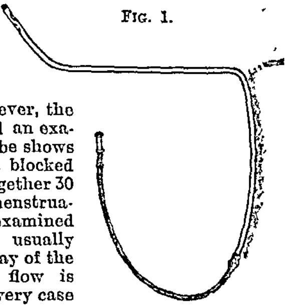
Experiment.	Extract of endometrium.	Human blood.	Coagulation.	Coagulation time.
	(Sheep)			
1	1 c.c.	1 c.c.	+	6 min.
2	1 ,,	1 ,,	+	5½ ,,
3	2 ,,	1 ,,	+	3 ,,
4	2 ,,	1 ,,	+	4 ,,
5	— Control.	2 ,,	+	5 ,,
6	— ,,	2 ,,	+	5½ ,,

Series 4.

Experiment.	Menstrual blood. (Vaginal)	Human blood.	Coagulation.	Coagulation time
1	1 c c.	1 c c.	+	2½ min.
2	1 ,,	1 ,,	+	2 ,,
3	2 ,,	1 ,,	+	3 ,,
4	2 ,,	1 ,,	+	3½ ,,
	(Uterine)			
5	1 ,,	1 ,,	+	2½ ,,
6	1 ,,	1 ,,	+	2½ ,,
7	2 ,,	1 ,,	+	3 ,,
8	2 ,,	1 ,,	+	2 ,,
9	— Control.	2 ,,	+	4½ ,,
10	— ,,	2 ,,	+	4 ,,

Material employed.—(*a*) Endometrium obtained by curettage during intermenstrual period, (*b*) ditto obtained during first and second days of period, (*c*) extracts of endometrium prepared from (*a*) and (*b*); (*d*) ditto prepared from animals (sheep); (*e*) menstrual blood collected from vagina and uterus

FIG. 1.



Intra-uterine glass catheter for obtaining menstrual uterine secretion and blood directly from the uterine cavity. The catheter was made for me by Messrs. Philip Harris and Co., Birmingham.

TABLE II.—*Showing Incidence of Thrombi in Uterine and Vaginal Blood.*

Case.	Age.	Day of period.	Clot in utero.	Clot in vagina.
1	28	2nd	+	–
2	21	2nd	+	–
3	34	2nd	+	–
4	26	1st	+	–
5	25	2nd	+	+
6	42	2nd	+	–
7	39	2nd	+	–
8	29	1st	+	–
9	16	2nd	+	+
10	24	3rd	+	+
11	22	2nd	+	–
12	44	2nd	+	–
13	39	2nd	+	+
14	15	1st	+	–
15	18	2nd	+	+
16	40	2nd	+	+
17	41	2nd	+	+
18	25	1st	+	–
19	36	2nd	+	–
20	35	3rd	+	–
21	40	1st	+	–
22	26	2nd	+	–
23	24	2nd	+	–
24	29	2nd	+	–
25	37	2nd	+	–
26	33	2nd	+	–
27	28	3rd	+	+
28	19	2nd	+	–
29	28	1st	+	–
30	46	2nd	+	–

At first I attributed this unexpected finding to direct trauma of the endometrium, but the continued presence of thrombi in spite of increased care in obtaining the blood, and the employment of tubes previously immersed in liquid paraffin, has convinced me that the phenomenon is physiological and a part of the menstrual cycle. In many cases the thrombus contains epithelial débris formed by breaking-down tissue from the endometrium, and so is analogous to the menstrual clot to which I have already referred in the case of primates. The microscopical appearances of a fragment of degenerated endometrium obtained from the menstrual clot are represented in Fig. 2. Since thrombi are not present in the fluid when it reaches the vagina, or if present are so small as almost to pass unnoticed, it is evident that during its passage from the corpus uteri to the lower genital passages fibrin becomes partially or completely dissolved. This autolysis is analogous to the phenomena I have referred to in the case of ovarian blood cysts, and in my opinion is the result of an enzyme of a fibrinolytic nature.

Evidence of a Specific Thrombolysin in the Uterine Secretion.

The question now arises as to whether it is possible to demonstrate the existence of such an enzyme by more conclusive tests. The experiments shown in Table III. were carried out with this in view. Menstrual blood collected from (*a*) the uterus and (*b*) the vagina was mixed in varied proportions with blood taken from the basilic vein. The coagulation time was noted and the tubes incubated at body temperature. The results are detailed as under:—

TABLE III.—*To show Thrombolytic Power of Menstrual Blood.*

Series 1. Menstrual Blood (Vaginal).

Experiment.	Venous blood.	Menstrual blood.	Coagulation time.	Clot resolved.	Time.
1	1 c.c. (auto).	1 c.c.	2 min.	Partial.	12 hours.
2	1 ,, (hetero).	1 ,,	2½ ,,	Complete.	12 ,,
3	1 ,, (auto).	2 ,,	3 ,,	,,	12 ,,
4	1 ,, (hetero).	2 ,,	4 ,,	,,	10 ,,
5	1 ,, (auto).	3 ,,	2½ ,,	,,	12 ,,
6	1 ,, (hetero).	3 ,,	3 ,,	,,	12 ,,
7	1 ,, (auto).	½ ,,	4 ,,	Partial.	24 ,,
8	1 ,, (hetero).	½ ,,	5 ,,	Complete.	24 ,,
9	1 ,, (auto).	½ ,,	5 ,,	Partial.	24 ,,
10	1 ,, (hetero).	½ ,,	4 ,,	,,	24 ,,
11	1 ,, (auto).	¼ ,,	4½ ,,	,,	24 ,,
12	1 ,, (hetero).	¼ ,,	3 ,,	,,	24 ,,
13	2 ,, Control.	—	5 ,,	*Nil.*	24 ,,
14	2 ,, ,,	—	5½ ,,	,,	24 ,,
Series 2. Menstrual Blood (Uterine).					
1	1 c.c. (auto).	1 c.c.	2½ min.	Complete.	48 hours.
2	1 ,, (hetero).	1 ,,	2 ,,	,,	24 ,,
3	1 ,, (auto).	2 ,,	3 ,,	Partial.	24 ,,
4	1 ,, (hetero).	2 ,,	2½ ,,	Complete.	12 ,,
5	1 ,, (auto).	3 ,,	3 ,,	,,	12 ,,
6	1 ,, (hetero).	3 ,,	2 ,,	,,	6 ,,
7	1 ,, (auto).	½ ,,	2½ ,,	Partial.	24 ,,
8	1 ,, (hetero).	½ ,,	2½ ,,	Complete.	24 ,,
9	1 ,, (auto).	½ ,,	3 ,,	,,	24 ,,
10	1 ,, (hetero).	½ ,,	4 ,,	Partial.	24 ,,
11	1 ,, (auto).	¼ ,,	4½ ,,	,,	24 ,,
12	1 ,, (hetero).	¼ ,,	5 ,,	,,	24 ,,
13	2 ,, Control.	—	4½ ,,	*Nil.*	24 ,,
14	2 ,, ,,	—	5 ,,	,,	24 ,,

In Table III. "auto" signifies that the venous blood and menstrual blood were collected from the same patient; "hetero" that the venous blood was taken from another patient. The coagulation time was estimated by Wright's coagulimeter method and also directly in test tubes. In the experiments quoted the coagulation times indicate that thrombosis was complete and that the test tube containing the mixed bloods could be inverted without the contents escaping.

With regard to the results, it will be noted that in the case of menstrual blood of vaginal origin the coagulation time of the mixture varied from 2 to 5 minutes. The resulting clot was resolved completely in 6 experiments and partially in the remaining 6 in times varying from 12 to 24 hours. With menstrual blood collected directly from the uterus coagulation occurred in from 2 to 4 minutes, the average time being 2·8 minutes. The resolution of clot took place completely in 7 cases and partially in the remaining 5. It should be noted, however, that in the latter, clot was already present before a further quantity of blood was added. With the controls no breaking down of clot occurred, and the coagulation time varied from 4½ to 5½ minutes. In those cases where resolution of the clot is recorded as complete the fluid was centrifugalised and the deposit stained for fibrin by Weigert's method. An important fact indicated in the table is that autolysis occurred *not only* with the patient's own blood, but *also* with that from another patient. The phenomenon is best marked where menstrual blood is in excess. When venous blood is in excess fibrinolysis is only partial.

A further series of experiments were undertaken to ascertain whether the substance present in menstrual blood, which possesses this power of disintegrating thrombi, acts in a quantitative manner or as a true enzyme. The results are detailed under Table IV., the object of these experiments also being to ascertain whether the fibrinolysin is in the fluid or solid portion of the menstrual discharge.

TABLE IV.—*To show Thrombolytic Power in the Fluid obtained by Centrifugalising Menstrual Blood.*

Series 1. Menstrual Blood (Vaginal). Fluid only.

Experiment	Venous blood.	Menstrual fluid.	Coagulation time.	Clot resolved.	Time.
1	1 c.c.	3 c.c.	3 min.	Complete.	12 hours.
2	1 ,,	2 ,,	2 ,,	,,	24 ,,
3	1 ,,	1 ,,	3 ,,	Partial.	24 ,,
4	1 ,,	½ ,,	4 ,,	,,	24 ,,
5	1 ,,	¼ ,,	3 ,,	*Nil.*	24 ,,
6	1 ,,	¼ ,,	5 ,,	,,	24 ,,
7	2 ,, Control.	—	5 ,,	,,	24 ,,
8	2 ,, ,,	—	5½ ,,	,,	24 ,,
Series 2. Menstrual Blood (Uterine). Fluid only.					
1	1 c.c.	3 c.c.	3 min.	Complete.	24 hours.
2	1 ,,	2 ,,	3 ,,	,,	12 ,,
3	1 ,,	1 ,,	2 ,,	,,	6 ,,
4	1 ,,	½ ,,	4 ,,	Partial.	24 ,,
5	1 ,,	¼ ,,	4 ,,	*Nil.*	24 ,,
6	1 ,,	¼ ,,	3½ ,,	Partial.	24 ,,
7	2 ,, Control.	—	5 ,,	*Nil.*	24 ,,
8	2 ,, ,,	—	5 ,,	,,	24 ,,

The material for these experiments was obtained by centrifugalising menstrual blood from the uterus and vagina. The fluid in the case of the uterus was clear or only faintly stained with hæmoglobin; that from the vagina, on the other hand, was always dark red in colour due to an extreme degree of hæmolysis In the case of those experiments where complete resolution of clot occurred the fluid was again centrifugalised and the supernatant liquid mixed with fresh normal blood and incubated at body temperature. The results of this further series are shown in Table V.

TABLE V.—*To show Thrombolytic Power in Menstrual Fluid after Thrombolysis has occurred Fluid again Centrifugalised.*

Experiment	Venous blood	Menstrual blood	Coagulation time	Clot resolved	Time
1	1 c c	2 c c	4 min	Partial	24 hours
2	1 "	1 "	3	"	"
3	1 "	1 "	4 "	*Nil*	"
4	1 "	½ "	4½ "	"	"
5	1 "	¼ "	5 "	"	"
6	1 "	—	4 "	"	"
7	2 " Control	—	5 "	"	"

It appears, therefore, that the body producing thrombolysis is present in the fluid portion of the menstrual discharge, and, moreover, acts in a quantitative manner, since it will not produce the resolution of an unlimited amount of thrombus Its power becomes gradually less in material obtained by repeated autolysis and centrifugalisation Furthermore, the fibrinolysin present in the menstrual discharge appears to be specific, since it does not exert any very evident action upon fibrin obtained in the usual manner from ox blood as shown in the following series of observations (Table VI.).

TABLE VI—*To show Fibrinolytic Power of Menstrual Blood upon Ox Fibrin.*

Experiment	Menstrual blood	Source	Fibrin dissolved	Time
1	4 c c	Vagina	? Partial	24 hours
2	3 "	"	"	"
3	2 "	"	*Nil*	"
4	1 "	Uterus	"	"
5	½ "	"	"	"
6	½ "	"	"	"

In these experiments a single thread of fibrin was employed, and in only two was there any evidence of solution. In these the fluid after incubation became very tenacious and tarry, resembling the contents of hæmatocolpos both in consistency and colour. The fibrin thread, however, only partially disappeared, and therefore the experiments cannot be considered conclusive. Digestion of ox blood fibrin with varying quantities of other fluids, for example, extract of endometrium, extract of ovary, hydrocele fluid, and fluid from parovarian and pseudo mucinous cysts, also all proved negative The question naturally arises as to whether the thrombolytic property of menstrual fluid is due to any of the known constituents of the latter Blair Bell has shown that calcium salts are present in the menstrual discharge in excess of those present in the circulating blood The fluid also contains mucin secreted by the cervical glands and small quantities of lactic and butyric acids The results obtained in a series of experiments undertaken to ascertain the effect of these substances upon the coagulation time of blood and the possession of any thrombolytic power are shown in Table VII.

TABLE VII—*To show the Effect of Mucin, Calcium Salts, Lactic and Butyric Acids upon the Coagulation of Blood*

Series A Mucin

Experiment	Mucin 2 % sol	Venous blood	Coagulation time	Clot resolved	Time
1	½ c c	1 c c	25 min	*Nil*	24 hours
2	1 "	1 "	30 "	"	24 "
3	2 "	1 "	35 "	"	24 "
4	3 "	1	35 "	"	24 "
5	4 "	1 "	40 "	"	24 "
	— Control	2	5½ "	"	24 "

N B—Clot formation delayed and thrombus soft in consistency

Series B Calcium Chloride

Experiment	Calcium chloride 1 c c	Venous blood	Coagulation time	Clot resolved	Time
1	0 5 %	1 c c	7 min	*Nil*	24 hours.
2	1 "	1 "	15 "	"	24 "
3	2 "	1 "	30 "	"	24 "
	3 "	1 "	*Nil*	"	24 "
5	4 "	1 "	"	"	24 "
6	5 "	1 "	"	"	24 "
7	Saturated	1	"	"	24 "
8	— Control	2 "	5 min	"	24 "

Series B Calcium Chloride

Figures given by Wright (quoted by Addis)

0 018 % $CaCl_2$	"	Blood failed to clot ? Cause
0 036 " "		Clots in 1½ min
0 055 " "	"	1 "
0 110 " "	"	2½ "
0 165 " "	"	5 "
0 183 " "	"	6½ "
0 366 " "	"	over 60 min
0 550 " "	"	Fails to clot in 24 hours

N B—Menstrual blood yielded an ash equivalent to 1 44 % total solids and calcium 8 parts CaO per 6000 (0 133 %)

Series C Lactic Acid

Experiment	Lactic acid 1%	Venous blood	Coagulation time	Clot resolved
1	¼ c c	1 c c	10 min	*Nil*
2	½ "	1 "	25 "	"
3	1 "	1	30 "	"
4	2 "	1	*Nil*	"
5	3 "	1 "	"	"
6	4 "	1 "	"	"
7	— Control	2	5½ min	"

Series D Butyric Acid

Experiment	Butyric acid 1%	Venous blood	Coagulation time	Clot resolved
1	¼ c c	1 c c	7½ min	*Nil*
2	½ "	1	8 "	"
3	1 "	1 "	30 " (slight)	"
4	2 "	1 "	*Nil*	"
5	3 "	1 "	"	"
6	4 "	1 "	"	"
7	— Control	2 "	5½ min	"

Since observing the phenomenon of thrombolysis in menstrual blood I have investigated several pathological fluids from the same standpoint I do not wish to go into detail on the present occasion, but in passing I may say that from material obtained from various ovarian cystomata the fluid which appears to possess the best marked thrombolytic power is that contained in lutein cysts. This is interesting in view of the supposed lutein origin of ovarian blood cysts, and the observation that I have already noted as to the absence of fibrin and fibrinogen from the contents of such cysts. It is probable that thrombolysins play an important part in the living organism in removing products of diffuse hæmorrhage and thrombosis. A body of this nature certainly appears to occupy a definite rôle in the physiology of menstruation by rapidly and easily removing the results of intra-uterine coagulation.

Summarising, therefore, the preceding facts, it appears necessary for descriptive purposes to classify the menstrual discharge under two headings—viz., (1) contents of the uterus; and (2) contents of the vagina. The former consist of thrombus containing epithelial cells, leucocytes, and calcium salts, mixed with the secretion from the uterine glands containing fibrinolysin. The fluid is alkaline in reaction and gives the spectrum of oxyhæmoglobin. The contents of the vagina consist of the products of thrombolytic and hæmolytic digestion, mixed with vaginal cells and the secretions of the corporeal and cervical glands. A considerable amount of mucus is present with traces of lactic and butyric acids. The fluid possesses a faint but distinct odour, and is alkaline in reaction. In colour it is dark red and gives the spectrum of oxyhæmoglobin. Micro-organisms abound in the fluid contained in the vagina, but are rare in material obtained from the uterine cavity.

The Influence of Thrombokinase in Promoting the Clotting of Menstrual Blood.

Rapid clotting of the blood in the tissues of the endometrium is undoubtedly facilitated by the thrombokinitic power of the endometrial stroma. In the results of experiments detailed in Tables I. and III. it was shown that both the tissue of the endometrium and menstrual blood have the power of diminishing the coagulation time of normal blood. This phenomenon I attribute to an excess of thrombokinase derived from the stroma cells. In the results contained in Table VII. I have shown that rapid clotting is not aided by any of the known constituents of the menstrual fluid in such proportions as occur in the latter. On the other hand, it is well known that extracts of certain tissues, such as the testis, have the power of lowering the coagulation time of blood. In the case of the uterine endometrium this specialisation of function and storage of thrombokinase subserves a very important physiological purpose. It must be remembered that under normal conditions hæmorrhage from the menstruating endometrium is a slow ooze, and there is ample time for the blood to be brought into relation both with the stroma cells which contain the thrombotic elements, and the secretion of the uterine glands which brings about thrombolysis. The high thrombokinitic power of the endometrium is therefore a provision of nature to facilitate clotting and prevent excessive hæmorrhage. Even in well-marked cases of hæmophilia profuse uterine hæmorrhage very rarely occurs during menstruation, as recorded by Gulland and Goodall. This to my mind is a very strong clinical argument in favour of the views that I have just put forward.

Thrombokinitic power of the endometrium is present both in the non-menstruating and menstruating uterus, but appears to be most marked in the latter. Clinically the phenomenon is often evident during the operation of curetting. It is well known how rapidly the blood clots when mixed with the curetted endometrium, and special precautions are necessary to obtain tissue for microscopical purposes unmixed with clot. If, now, the curettings are incubated at body temperature partial or complete thrombolysis occurs according to the proportion of tissue and thrombus present. When curettage is performed during a menstrual period thrombolysis appears to be much more active.

The Histological Characters of the Menstruating Endometrium.

Considerable attention has been given within recent years to the anatomical study of the endometrium in the human female, both during the state of rest and during the phases of actual menstruation. Young, in 1911, pointed out that the stroma of the endometrium is to be regarded as a sponge-like structure formed by the union of branching processes from the individual cells, and he suggested that the extravasation of blood into the intercellular spaces is due to metabolic changes taking place within the cells, initiated in all probability by the stimulus of a hormone of ovarian origin. Since the appearance of Young's work I have examined numerous sections of endometrium obtained by operation, and have satisfied myself that his views as regards the development of a reticulum from the cells of the endometrial stroma are correct. Details in structure are best seen during the early pre-menstrual stage before hæmorrhage occurs into the stroma. The individual cells at this period are widely separated from each other, as shown by Fig. 3, and the identity of the so-called reticulum with the branching processes of the individual stroma cells is quite evident.

More recently, Adler and Hitschmann have described in detail the histological characters of the endometrium during the complete menstrual cycle. They point out that the cycle is divided into three stages—viz., pre-menstrual, menstrual, and post-menstrual—the essential changes affecting both the glandular and stroma elements in the endometrium. During the menstrual flow there is a definite loss of epithelium both from the glands and surface of the endometrium. After menstruation an extraordinary formation of new cells occurs, correlating to the amount of tissue lost. This continues until the end of the interval before the succeeding menstruation, when the newly formed epithelium is anatomically complete.

DESCRIPTIONS OF ILLUSTRATIVE PLATES.

The references to Figs. 7 to 13 will appear in the concluding portion of the Lecture.

FIG. 2.—Tissue of endometrium contained in normal menstrual blood (second day), and showing surface epithelium, glands, and stroma cells. The photograph proves that disintegration of tissue normally occurs and that a breach of surface exists.

FIG. 3.—Stroma of endometrium under high magnification to show branching processes of stroma cells and formation of a reticulum.

FIG. 4.—Normal diffuse hypertrophy of endometrium (superficial portion). Superficial glands irregular and dilated; deep glands do not take part in the premenstrual hypertrophy.

FIG. 5.—Early premenstrual decidual change in superficial cells of stroma of endometrium. Note branching of cells and large nuclei.

FIG. 6.—Well-marked "decidual" change in stroma cells during normal menstruation. Section taken from surface of endometrium.

FIG. 7.—Hydrometra in rabbit. Activity of uterine glands. Note dilatation of glands.

FIG. 8.—Hydrometra in rabbit after double oöphorectomy. Shows atrophy of endometrium.

FIG. 9.—Atrophied endometrium in case of diffuse fibrosis uteri. Hæmorrhage was profuse and necessitated hysterectomy.

FIG. 10.—Endometrium showing dilatation of glands and hæmorrhage into stroma. Condition resembles premenstrual stage of normal endometrium.

FIG. 11.—Endometrium, active. Glands large and cystic; leucocytes and epithelial débris in lumina; stroma infiltrated with red blood cells.

FIG. 12.—Endometrium during rest. Glands small and collapsed.

FIG. 13.—True infective endometritis. Note large thrombosed capillaries. Hæmorrhage was not a clinical feature in this case.

Physiological function is then developed, as shown by the production of secretion in the glands. At this stage they are large and dilated, with intraglandular processes composed of high columnar secreting epithelium. At the termination of the function, on the other hand, the glands are small, narrow, and long, and the epithelium low.

The appearance exhibited by glands during the pre-menstrual stage is shown in Fig. 4. It is important to note that apparently only the superficial portion of the endometrium takes part in the active changes during the acme of the cycle. The stroma in relation to the metrium, although congested, does not exhibit under normal conditions the same œdema and hæmorrhage as the superficial layer. It appears, therefore, to act as a rearguard, whose duty it is to replace the tissue lost during the destructive stage. The superficial stroma cells of the endometrium hypertrophy during the pre-menstrual period, and present a more or less similar appearance to the decidua of an early pregnancy. (Fig. 5.)

Occasionally this "decidual reaction" is extremely marked, as shown in Fig. 6, which represents a portion of the curettings obtained from a single girl, aged 23, the operation being performed for dysmenorrhœa. In this particular instance no question of pregnancy could be entertained. Blair Bell has drawn attention to a similar appearance sometimes noted in the "casts" of the uterus passed by patients the subject of so-called membranous dysmenorrhœa or exfoliative endometritis. The view that I hold is that this disease merely represents an extremely high grade of development of what in a lesser degree is a normal anatomical occurrence, and in a sense may be regarded as an atavistic phenomenon. These "casts" are almost precisely identical with the menstrual clot and complete denudation of the endometrium which is present in the higher apes.

Adler and Hitschmann remark that when the development of the endometrium is completed, if pregnancy does not take place, hæmorrhage occurs simply because the glands in the mucosa throw out their secretion. In other words, the loss of blood indicates the termination of the physiological cycle. This hæmorrhage is associated with shedding of portions of the superficial endometrium, both stroma and glands. That destruction of the tissue definitely occurs is shown by Fig. 2, which represents tissue found in the clot collected from the uterine cavity before cytolysis has taken place. Gland epithelium and stroma cells are quite evident.

The facts, therefore, to which special emphasis should be directed are the following: 1. Physiological enlargement and dilatation of the uterine glands during the pre-menstrual stage. 2. The formation of a modified decidua by the superficial cells of the stroma. This, as a rule, is only partial. 3. Hæmorrhage following the complete development of the endometrium associated with partial disintegration of the superficial layers of both glandular epithelium and stroma. 4. A period of regeneration dating from the stage of post-menstrual destruction to the development of a new layer of secreting epithelium and fresh decidua. Correlating these facts with the statements already made upon the biochemical function of the endometrium, I would observe that under physiological conditions hæmorrhage does not occur until both stroma and glands are at their highest grade of development; in other words, both factors are present and physiologically balanced to control uterine bleeding and dispose of the clot so produced.

Factors in the Production and Cessation of the Menstrual Hæmorrhage.

Before an inquiry can be instituted into the question of pathological bleeding it is a matter of the highest importance to ascertain if possible the machinery concerned in the control of normal menstrual hæmorrhage. Three factors suggest themselves as having a possible influence upon such a question—viz., (1) The effect of uterine muscular contractions in limiting the supply of blood flowing to the endometrium; (2) the action of a hormone or hormones producing capillary dilatation in utero; and (3) the biochemical function of the endometrium itself.

As regards the first named, it has been stated that such contractions are present, and that if the uterus is palpated during the progress of the menstrual flow it is not infrequent to note periodic variations in its consistency. Direct demonstration of this fact is of course difficult in the human subject, but in the case of rabbits Blair Bell has recorded that extreme uterine contractions are produced by the injection of uterine secretion. I have also observed the occurrence of direct peristaltic movements in the uteri of rabbits when the secretion obtained from an artificial hydrometra is administered intravenously. Is it possible, therefore, that a portion of the uterine secretion is reabsorbed and serves as a direct stimulus to uterine contraction, thus diminishing the amount of blood flowing to the endometrium?

Bond has gone very carefully into the chemical composition of the uterine secretion in rabbits obtained from an artificial hydrometra. He found that the fluid was clear and watery in appearance with a low specific gravity, and that it held a large quantity of sodium chloride in solution. During pregnancy this secretion was absent. Also, in those animals where the uterine cornua were ligated Bond noted that the period of œstrum was prolonged and occurred frequently. I am at present carrying out an investigation in rabbits into the physiological properties of the uterine secretion obtained by Bond's method, with a view to ascertaining the effect, if any, of this secretion upon the production of œstrum and the control of hæmorrhage. The results so far obtained are sufficiently interesting to place before you.

Experiment I.—Virgin rabbit, weight 1570 grm. On Dec. 9th, 1913, both uterine cornua were ligated and a third ligature passed around the upper end of the vagina. The wound healed in a few days, and on Dec. 19th the animal was placed with the buck. Coitus occurred almost daily until Jan. 12th, when the animal was killed Both uteri were distended and 3 c c. of fluid were collected under aseptic precautions. The pelvic viscera and vagina were much congested and the animal was evidently experiencing œstrum. The activity of the uterine glands is shown well in Fig. 7, representing a section through the uterus of this animal compared with Fig. 8, showing a section through the uterus of an animal during the period of anœstrum.

Of the uterine secretion 1 c.c. was immediately mixed with 1 c.c. of the animal's blood. Clotting was complete in 1½ minutes. The control clotted completely in 3½ minutes.

Experiment II.—Mature virgin rabbit, weight 1580 grm. Not "on heat." The animal was inoculated on Jan. 14th, 1914, into the tissues of the thigh with 2 c.c of the turbid opalescent uterine secretion obtained from Experiment I. The animal was examined the following day and signs of pro-œstrum were present. The following day the abdomen was opened and the pelvic viscera inspected. The uterus was swollen and congested and evidently in œstrum. One cornu of the organ was excised for microscopical examination, and the other was ligated as in Experiment I. in order to obtain a fresh supply of material.

Experiment III.—Virgin rabbit, weight 1305 grm. On Dec. 12th, 1913, ligation of the right uterine cornu was carried out, the left cornu being left in communication with the vagina. Ten days later the animal was placed with the buck, and it was again noted that coitus occurred at once and almost daily till the date on which it was killed, Jan. 13th, 1914. A well-marked hydrometra of the right uterine cornu was present, and 3 c c. of turbid opalescent fluid were collected with aseptic precautions. 1 c.c. of the fluid was placed with 1 c.c. of blood. Clotting was complete in 2 minutes. The control clotted in 4½ minutes. The left cornu was much congested and in a state of œstrum. No pregnancy was present.

Experiment IV.—Virgin rabbit, weight 1295 grm. On Jan. 14th, 1914, the animal was inoculated into the tissues of the thigh with 1 c.c. of uterine secretion obtained from Experiment III. On the following day an examination did not show any evident sign that the animal was "on heat." On the second day after operation the abdomen was opened and the pelvic organs examined. Congestion of the uterus and vagina was present, but not to the extreme degree found in Experiment II. It appeared that œstrum was commencing and not fully established. One cornu was excised for microscopical examination; the other was ligated in order to obtain a further supply of secretion.

Experiment V.—Virgin rabbit, weight 1950 grm. On Dec. 16th, 1913, double oöphorectomy was performed, with ligation of both uterine cornua at their junction with the vagina. Ten days later the animal appeared in good health and was placed with the buck. Coitus occurred regularly, and in fact no difference was noted between this animal and the two others in which the ovaries had not been removed. The animal was killed on Jan. 12th, 1914. A small hydrometra was discovered in both uterine cornua, but only 1½ c.c. of fluid could be obtained from the same. The pelvic organs were not markedly congested and the uterine secretion had a different appearance to that noted in the two normal animals. It was a clear watery fluid, not turbid, and when added to an equal quantity of rabbit's blood produced no alteration in the coagulation time.

Experiment VI.—Mature virgin rabbit, weight 1320 grm. Not "on heat." On Jan. 14th, 1914, the animal was inoculated into the muscles of the thigh with 1 c.c. of uterine secretion obtained from Experiment V. No point of interest was noted upon the following day, and two days after the inoculation the pelvic organs were inspected through an abdominal incision. They appeared normal and not congested. One uterine cornu was excised for microscopical examination and the endometrium showed no evidence of marked activity, the glands being small and contracted. Double oöphorectomy was performed and the remaining uterine cornu ligated in order to obtain a further supply of material if possible.

The experiments, as far as the investigation has gone, appear to show that the uterine secretion in rabbits, at least, is under the control of the ovaries both as to amount and physiological action. The normal secretion apparently aids coagulation of the blood—a point of interest when it is remembered that pro-œstrum in this animal is not associated as a rule with external hæmorrhage. The secretion also appears to stimulate œstrum. Bond's experiments have shown that when the fluid is pent up, as in artificial hydrometra, œstrum is frequent and prolonged, and my investigations certainly tend to confirm his observations. It appears possible, therefore, that uterine secretion, stimulated and controlled by an ovarian hormone, is partly absorbed and produces that dilatation of vessels which is characteristic of the late stages of pro-œstrum and immediately precedes œstrum. Whether this is the case with the human female it is only possible to surmise, but with the close analogy of menstruation to pro-œstrum it is certainly possible. At the same time, clinical experience has shown that a period of œstrum or sexual desire may occur in the human species quite independently of both uterus and ovaries, as is the case when these organs have been removed singly or together at an early period of married life. The subject is naturally difficult to investigate from a scientific standpoint, and observations are most reliable when based upon animal experiments.

Concerning heterogeneous extracts prepared from the uterine endometrium and from the ovarian stroma and corpus luteum, I have been unable to satisfy myself that these have any effect in stimulating the onset of œstrum or in accelerating menstruation. At my request Messrs. Burroughs and Wellcome kindly prepared for me extracts of uterine endometrium and ovary from tissues obtained from the sheep. A series of rabbits were inoculated daily with these extracts in doses of 1 c.c. for a period of 28 days. At the end of this time the animals were killed and the pelvic organs, suprarenal and thyroid glands, subjected to detailed macroscopical and microscopical examination. The results as regards the uterus and ovaries are shown in Table VIII.

TABLE VIII.—*To show Effect of Extracts of Sheep's Endometrium and Ovary containing Corpus Luteum upon the Uterus and Ovaries of Rabbits.*

Rabbit.	Initial weight.	Weight at death.	Extract.	Uterus.	Ovaries.
1	1730 grm.	2012 grm.	Endometrium.	Normal.	Normal.
*2	1830 ,,	1790 ,,	,,	Large and congested.	Recent corpus luteum.
3	770 ,,	945 ,,	Ovary.	Normal.	Normal.
4	970 ,,	1135 ,,	,,	,,	,,
5	1390 ,,	1500 ,,	Endometrium and ovary.	,,	,,
6	1430 ,,	1425 ,,	,,	,,	,,

* This animal aborted after the eleventh injection. It was not known to be pregnant when the experiment was commenced.

The uterus and ovaries in these six animals, with the exception of Rabbit 2, presented no difference, either to the naked eye or under the microscope, to the same organs of two control animals. All were in an anœstrus condition, showing no congestion and no recently ruptured Graafian follicles. Rabbit 2 cannot be included in the results owing to the fact that it was pregnant when the experiment commenced. I conclude, therefore, that extracts of the endometrium and ovary of the sheep have no physiological effect in stimulating œstrum in the case of the rabbit.

Similar negative results were observed in the case of six women who received intramuscular injections of these extracts during the premenstrual period. No alteration was noted either in the duration of the cycle or length of the actual menstrual period. Whether these results would be modified by extracts prepared from organs during a period of sexual activity it is impossible at present to say. Such extracts are difficult to obtain in quantities sufficient for experimental purposes.

Be this as it may, there is ample evidence available to show that normal pro-œstrum and menstruation are under the control of the ovary and its associated endocrinous glands. It is superfluous on my part to dwell upon this aspect of the subject, which has been so admirably investigated within recent years. In particular, I would refer to the work of Biedl, Blair Bell, and Harvey Cushing. In the light of such knowledge we cannot say that menstruation is dependent solely upon ovarian function, although the latter is undoubtedly the strongest link in the chain. We must recognise the fact that the function of this organ is influenced by other elements in that great endocrinous system. A further reference to this subject will be made when discussing pathological uterine hæmorrhage.

(*To be concluded.*)

ANÆSTHETICS AND DIAGNOSIS.[1]

BY J. BLUMFELD, M.D., B.C. CANTAB.,
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ALTHOUGH the commonest use of anæsthetics is to allow of the performance of surgical operations it is not their only use. From the other occasions on which they are employed most interesting results are sometimes forthcoming, and it is with a few of these that I now wish to deal. These less common occasions for the induction of anæsthesia are, first, to permit of complete examination, particularly in abdominal, rectal, and pelvic cases; secondly, to alleviate pain or convulsive attacks; thirdly, to relieve respiratory troubles, as in cases of asthma; and fourthly, to relax muscles so as to get rid of their tone for the time being or to abolish spasm.

In connexion with these comparatively uncommon uses of anæsthesia I have had during the last 15 years some interesting experiences the relation of which may, I think, be not unprofitable. I have seen diagnoses made with confidence beforehand completely changed when the patient was anæsthetised, tumours that had been declared irremovable found to be removable and safely removed, masses revealed the presence of which had been hitherto unsuspected, and operations abandoned when they had been previously held to be perfectly feasible. I have also seen the cause of an existing respiratory trouble revealed in an unexpected direction, and, on the other hand, I have seen respiratory trouble arising in the course of anæsthesia lead to the detection of a mediastinal tumour which had caused no *symptoms* in the *conscious* patient. Thus it appears that the administration of an anæsthetic may sometimes be the chief step in making a correct diagnosis, not merely by allowing of an examination which [illegible] but also by providing fres [illegible] observed behaviour of [illegible] anæsthesia.

First as regards the use of anæsthesia in abdominal examination. I believe it would be a good rule if almost every case of abdominal tumour were examined under an anæsthetic before removal was attempted The examination can always be made with the patient and all accessories prepared, so that if operation is decided on it can be carried out forthwith and the patient saved a second anæsthetic. I am led to this belief in the advisability of examining these cases under an anæsthetic by the frequency with which I have observed that the surgeon finds when he operates that the condition is different from what he had expected as a result of his previous examination with the patient conscious. Sometimes in tumour cases the tumour is not even in the place or concerned with the organ with which he had expected to find it connected. By not knowing this beforehand he opens the abdomen at a disadvantage. Such was the case, for instance, when an abdomen was opened and an appendix removed which proved to be but little concerned in the patient's symptoms, for a fuller examination of the abdomen from within led to the discovery of an early carcinoma of the sigmoid removable, but not through the same incision. This growth would have been felt by a bimanual examination under anæsthesia. In another patient the abdomen was opened for removal of a growth in the abdomen, but so many and such large secondary deposits occupied the epigastric region that removal was out of the question. With the complete relaxation of full narcosis these growths would have been palpable.

Such a discovery in time happened in another interesting case. Captain A, aged 35, a well-made, active soldier, had complained for weeks of vague indisposition associated with pain in the epigastrium and around the ribs. Nothing abnormal could be felt on examination of the abdomen. A small, firm tumour was discovered on the back, and it was decided to excise this in case its nature should throw any light upon the abdominal discomfort. For this purpose an anæsthetic was given. When the patient was fully under the anæsthetic the surgeon examined the abdomen, and through the flaccid walls he easily felt several masses; one in the neighbourhood of the liver felt so superficial as to make him surprised that it had not been easily detected at his previous examination; it was hard and felt as though it was actually in the abdominal parietes.

Again, a woman aged 68 had attacks of abdominal and thoracic pain at varying intervals. They were accompanied by a sense of fulness in the abdomen and by flatulence; the pain was in the right hypochondrium and affected the shoulder on that side. Two days after such attacks she was slightly yellow. The bowels were often constipated, with alternating diarrhœa. There was some general wasting. Examination of the abdomen showed a normal contour except for some bulging in the right loin. Palpation revealed a rounded body approximately in the position of the lower pole of the right kidney. Under the upper segment of the right rectus nothing definite could be felt, but an impulse could be communicated from a hand in this region to that in the iliocostal space. The diagnosis was made of an enlarged gall-bladder. During anæsthesia a definite mass in the transverse colon was made out and secondary masses in the neighbourhood of the liver and pancreas.

Such cases as those that I have related, which are only examples of very many others, are enough to support the view that an examination under full anæsthesia should be made in most abdominal cases before operation, if not in all cases of abdominal tumour.

It is in the abdominal wall, too, that those strange phantom tumours sometimes appear the confident diagnosis of which can be made only by the use of anæsthesia. A tumour of this sort disappears completely with full narcosis, and, moreover, it disappears in a particular way. Sir William Bennett[2] has pointed out that it does not suddenly vanish as though it had slipped away into another part of the abdomen, but it gradually melts away under the hand. Moreover, as the same observer has noted, during light anæsthesia these muscular tumours harden and increase, so that in examining such cases the hand should be kept on the tumour from the beginning, and the behaviour under early and then under late narcosis will show with absolute certainty that the tumour is a phantom one due to muscular contraction.

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[1] A paper founded on a lecture delivered at the Medical Graduates' College and Polyclinic.

[2] THE LANCET, Jan. 4th, 1902, p. 1.

One good example of phantom tumour, which came under my own notice may be told here. Mrs. B, 54 years old, a pink-faced fattish lady, with a lively manner, but described by her nurses as "very difficult to do anything with," suffered for some days with pain in the abdomen, increasing distension, and complete constipation. The physician and practitioner in charge thought that probably it would be necessary to open the cæcum, and that certainly the patient could not go another night in her present condition. When the surgeon and I arrived the abdomen was greatly distended, apparently with a large tumour rising from below and occupying all the mid-portion of the abdomen. In the semi-recumbent position, in which alone she could breathe with any comfort, an anæsthetic was given slowly and inhaled with no difficulty. As soon as anæsthesia was established the tumour completely disappeared. Some gurgling was heard at this time. Very thorough examination by the three medical men revealed no evidence of any tumour whatever within the abdomen.

These phantom tumours occur elsewhere than in the abdomen and are easily mistaken for growths. When such is the case and the patient is prepared for operation it is very striking when the dressings are removed after anæsthesia is induced to find no tumour present on which to operate. In the case of the abdomen, apart from these phantom tumours which disappear altogether, there is the interesting protective rigidity of muscle which must be considered in connexion with anæsthesia and diagnosis; for I have seen a correct diagnosis made absolutely by noticing the behaviour of a rigid portion of rectus under anæsthesia. The rigidity of the abdominal wall in cases of acute disease, as, for instance, appendicitis, is of course familiar to all, and is an important element in making the diagnosis. This protective rigidity, however, in acute cases usually disappears entirely when the patient is fully under the anæsthetic. Now, in a chronic case there may be such a rigidity which does not disappear in the same way. In the case to which I am referring there was a somewhat vague history of long-standing abdominal pain; the abdomen could not be easily palpated because almost everywhere the wall was kept rigid. Under an anæsthetic this rigidity all disappeared—and here is the important point—except in the upper part of the right rectus; this portion of muscle was tight and rigid, whilst the rest of the abdomen was relaxed and moving. Noticing this fact, the surgeon felt convinced of underlying disease, opened the abdomen in the neighbourhood, and found a chronic duodenal ulcer which had evidently perforated long since and had been shut off by inflammatory products which had affected the under surface of the anterior abdominal wall. It may be noted, by the way, that it is in such a case as this that the anæsthetist may find it impossible to get a condition of the abdominal wall which is comfortable for the operator. I believe in some of these long-standing cases there is a condition of contraction of the muscular fibres which no anæsthetic will overcome; perhaps after long-continued reflex protective contraction some fibrotic change has come about, and the muscle can no longer relax.

Here is another case which brings out the value of examination under an anæsthetic, and is a good example of a large class. A healthy married woman, aged 40, rather nervous, not stout, complained of an abdominal swelling which gave pain and of three months' amenorrhœa. On abdominal and vaginal examination the diagnosis was made of a three months' pregnancy together with a tumour which was probably an ovarian cyst. The enlarged uterus was on the left and the cyst on the right of the whole abdominal swelling. There was some contraction of the abdominal walls which made the examination not absolutely satisfactory, and the gynæcologist decided upon re-examining under anæsthesia before operating for removal of the cyst. This time, on making a combined vaginal and abdominal examination with completely relaxed abdomen, he found that the enlarged uterus constituted the right hand part of the tumour, and that on the left was a firm mass almost certainly fibroid. Irregular contractions in both parts of the mass probably led to the mistaken diagnosis, and this was only remediable by the examination during anæsthesia; the altered diagnosis led to postponement of the operation and normal full-time labour.

Another gynæcological case of different character where there was no tumour, but where the behaviour under an anæsthetic clinched the diagnosis, may be told here. Mrs. C, a dark, thin, highly neurotic married woman, aged 35, had had the appendix removed five years previously; three years later the abdomen had been opened again on account of persistent pain thought to be due perhaps to adhesions in connexion with the previous operation. Two years later she still suffered from chronic pain in the right side of the lower abdomen and pelvis. On vaginal examination it was found that the pain was removed when the cervix uteri was pressed up; any instrument, however, to keep the uterus up itself caused so much pain that it could not be borne. It was then decided to make a thorough examination during anæsthesia, as it was not obvious from the position of the uterus or from anything else why the pain should be present or should be relieved by pressing up the cervix. By palpating the fully relaxed abdomen nothing abnormal could be detected, but when examination was made per vaginam the interesting fact was revealed that pressure at a certain point in Douglas's pouch gave rise to reflex alteration of the breathing; there was some laryngeal spasm with straining of the abdominal wall. The reflex was produced in no other way. In order to test the reality of this phenomenon some traction was exerted upon the uterus, a procedure which will itself often provoke reflex inspiratory spasm, but no result followed upon this traction nor upon stretching the vagina; yet again directly the particular spot in Douglas's pouch was pressed upon there was reflex spasm. This repeated experience made it obvious that something was present to account for this peculiar local susceptibility, and closer examination revealed the presence of a band dragging on the cervix at the point where pressure gave the pain in the conscious patient.

Such instances as the following show the irretrievable disaster of not examining when symptoms suggest its advisability, and in this case, as in many others, the desirability not merely of examining, but of examining during anæsthesia, is shown. A lady, aged 50, highly intelligent, but modest and nervous, suffered from pain in the lower abdomen and occasional passage of blood and mucus from the rectum. At some times she was much better than at others, often feeling quite well and having no discharge from the bowel. She resented the idea of any local examination and was allowed to drift on with medical treatment for "*colitis*," as her symptoms had now been christened. Nearly 18 months after the first symptoms she was induced to submit to an examination under anæsthesia. A large ulcerating carcinoma at the recto-sigmoidal junction was easily discovered. *It could not, in the surgeon's opinion, have been reached by the finger unless the patient was under an anæsthetic.* The growth was by this time inoperable and a palliative colotomy was all that could be offered, whereas a year ago probably the growth could have been seen with a sigmoidoscope, even if not at that time actually felt, and a complete removal effected.

Harley-street, W.

ON OPERATIONS FOR HÆMORRHOIDS: A REVIEW OF 850 CASES.

By ARTHUR NEVE, F.R.C.S. EDIN.,
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HÆMORRHOIDS are common in North India, and not less so in Kashmir, where very severe forms are also met with in all sorts and conditions of men. As might be expected in a population living chiefly upon rice and vegetables constipation is a general habit; piles occur and are neglected, leading to inflammatory protrusions, severe hæmorrhages, anæmia, and other complications. The value of surgery is recognised, but the district which feeds the hospital is half the size of England, and men come 10 or 14 days' journey, sometimes in a very debilitated condition. The patients have included Sikhs, Pathans, and Tibetans, as well as a majority of Kashmiris, and a very few Europeans. No women are included in the series.

Preliminary treatment.—In some mild cases we have relieved the patient without operation by means of a regulated diet, suitable laxative medicine, and a suppository containing 5 per cent. chrysarobin with belladonna. Occasionally very weak old men are kept under treatment for a few days, especially if they suffer from any cardiac or other organic disease, but in the whole period only one patient was finally refused the benefit of an operation.

Methods of operation.—The method of choice in this hospital has long been that of clamp and cautery; and though there have been some few cases of ligature or of Whitehead's operation which we specially tried from 1893 to 1897, yet I several times regretted my temporary separation from the trusty clamp. Many other surgeons have made their early experience in this hospital, such as Holland of Quetta, Lechmere Taylor, Clark, and Gaster of North India, and each has carried a Kashmir clamp to his subseqent sphere, and considered it his method of choice.

H. Stone[1] reviews the method of the Johns Hopkins Hospital for a period of 20 years, 470 cases by the Whitehead method, without any death. He quotes W. Graeme Anderson,[2] with 300 cases of which 150 were by ligature, 100 by the Whitehead method, and 50 by clamp and cautery. Anderson preferred the last. O'Conor[3] records 490 ca the Whitehead method. Hadda publishes a based on 223 cases with one death. From Stone's paper I judge that the death-rate is practically negligible in most large clinics. As regards our own experience the results are as follows: Total operations (20 years), 855; known recurrences, 5; improved, 10; not improved, *nil;* left hospital unknown result, *nil;* died, 1.

Comparing the three chief methods of operations I consider that the clamp is suited for all cases, but that the very slight and pedunculated cases are as well treated by ligature, excision and suture. Our experience of Whitehead's method is limited to 20 cases. I have no use for it. It is obviously only needed in the more severe cases with piles all round the circle. In our last 500 cases, many very severe and affecting the whole pile-bearing area, I have failed to see one which could not be adequately treated by the clamp and cautery. In my own experience of excision of the whole area all the stitches were cut out in one case, leaving a raw granulating anus for weeks; in other hospitals I have seen two similar cases and have heard of others. Harvey Stone mentions the following complications in the Johns Hopkins series: (*a*) infected hæmatoma, 1; (*b*) post-operative hæmorrhage, 4; (*c*) local abscesses, 7; (*d*) granulating surface of greater or less extent, 116 cases; (*e*) catheterisation seems to have been very frequently needed; certainly in 1 in 4. As regards ligature, in severe cases it is not easy to apply. If combined with excision there may be troublesome oozing. I saw in my early experience several cases in which great pain was felt. There is a liability to small stitch abscesses, which may leave lingering sinuses.

Details of the operation.—The clamp we use is Benham's, usually called Pollock's, modified in 1882 by Dr. Downes and myself. As Jacobson remarks: "That surgeon will have the best results who has thoroughly familiarised himself with the details of one operation." There are certain errors into which inexperienced operators are apt to fall in using the clamp which show the importance of each of the following details: 1. The anus should be very thoroughly dilated, and this should occupy at least four minutes by the clock. Not merely is this important to obtain a good view and a good prolapse of internal piles, but also to obviate subsequent reflex spasm affecting the urethra and demanding the catheter. In about 10 per cent. of the total the catheter was used once, on the night of the operation. Subsequently catheterisation has only been needed in two or three cases of the 855. 2. Each pile should be gripped with a suitable catch forceps and drawn down and out by an assistant. Thus from four to six forceps will be at once applied, everting the dilated anus. 3. Beginnning at the top pile, the clamp is applied and screwed very tight. If there are only two or three not bulky piles it is applied with the blades longitudinal to the rectum—gripping high up the pedicle, crushing into a line or strip $1\frac{1}{4}$ inches long, then cutting off with curved scissors, and very thoroughly cauterising with the actual cautery, used almost, but not quite, red hot. The Paquelin cautery is very inferior for this purpose. Two iron or copper cauteries are needed with a bulb the size of a cherry. Each pile should take at least two minutes to crush and burn. 4. After the clamp is released care should be taken *not to drag on the wound* and all at the same time, in producing variations in the amount of dental caries in the school children. The method of "partial correlation" enables us to measure the extent of relationship between two varying phenomena, when other *interacting* phenomena are kept constant throughout the series of observations. Thus, it is possible by means of a partial correlation to estimate the relation between the *nature of the* water-supply and the amount of dental caries for a *constant infantile* mortality. This has been worked out, and, taking infantile mortality as a measure of environmental conditions, the partial correlation is 0·3454 ± 0·066, indicating that the harder the water the better the teeth.

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[1] H. Stone: Annals of Surgery, 1913, p. 647.

[2] Anderson: Brit. Med. Jour., 1909, vol. ii., p. 1276.

[3] O'Conor: THE LANCET, 1910, vol. ii., p. 946.

As it was not practicable to obtain for the districts under consideration the death-rates of children of the same age as those whose teeth were examined, another indirect index of the physique of the children was taken—namely, the general death-rate. This was correlated in turn with the total hardness of water *and with the percentages of* children having four or more carious teeth, the results being given in Table D.

TABLE D.

Variates.	Number of observations.	Correlations.	Probable error.	Remarks.
General death-rate and total hardness of water.	72	0·2965	± 0·06	The lower the general death-rate the harder the water.
General death-rate and percentage of children having 4 or more carious teeth.	72	0·3178	± 0 06	The lower the general death-rate the better the teeth.

Here again there is an apparent, though less marked, association between the nature of the water-supply, the amount of dental caries, and the general death-rate. In a manner similar to the former, the relation between the *nature* of the water-supply and the amount of dental caries can be worked out for a *constant general death-rate*. In this case, taking the general death-rate as a measure of environmental conditions, the partial correlation is 0·4152 ± 0·066, indicating that the harder the water the better the teeth. This result, again, suggests an association between the nature of the water-supply and the condition of the teeth, hard water going with good teeth and *vice versa*.

The returns for the Yorkshire and Lancashire towns were next separated from those for the rest of England and Wales, and the figures for the nature of the water-supply and the amount of dental caries for the two groups were correlated separately. The results are given in Table E:—

TABLE E.

Variates.	Number of observations.	Correlations.	Probable error.	Remarks.
Total hardness of water and the percentage of school children with four or more carious teeth, Lancashire and Yorkshire towns only.	23	0 427	± 0·11	The harder the water the better the teeth.
Total hardness of water and the percentage of school children with four or more carious teeth, rest of England and Wales.	56	0 408	± 0·08	The harder the water the better the teeth.

So far as these figures go they agree with the results given in Table A and indicate that, assuming the social conditions in the industrial districts of Yorkshire and Lancashire to be less favourable for *young children* than in the rest of England and Wales, there is no evidence to show that such *unfavourable surroundings* have any *influence* upon the relationship between the hardness of water and the amount of dental caries amongst the school children.

It is well known that where people are crowded together certain unfavourable conditions are produced which injuriously affect the health of infants and young children. The consequences and concomitants of such aggregation produce the high infantile mortality of our manufacturing towns and *other thickly populated* areas. As another indirect measure of the social conditions in the districts under consideration the figures relating to overcrowding were taken from the General Census Report, and, in turn, correlated with the hardness of water and the percentage of carious teeth in *each of the areas. The results are given in* Table F:—

TABLE F.

Variates.	Number of observations.	Correlations.	Remarks.
Number of persons per house, and the total hardness of the water.	79	0·0526	Not significant.
Number of persons per house, and the percentage of children having four or more carious teeth.	79	0 0672	Not significant.

It will be noted that in this table the correlations are calculated from 79 observations only. This is due to the fact that Aldershot, with its excessive aggregation of soldiers per house, so vitiated the value of the figures that it was omitted. There appears to be no association between the number of persons per house and the hardness of water or between the number of persons per house and the percentage of dental caries.

The partial correlation was next worked out for the relation between the hardness of water and the percentage of dental caries for a constant amount of *overcrowding*, Aldershot being excluded. In this case, taking a constant amount of overcrowding as a measure of environmental conditions, the partial correlation is 0·4643 ± 0·059; the harder the water the better the teeth. This result is noteworthy on *account of its close approximation to the correlation* between hardness of water and percentage of dental caries given in Table A. An attempt was also made to work out correlations in respect of rickets amongst the school children, but owing to paucity of data the results were not significant.

Conclusions.—1. The foregoing correlations and partial correlations indicate an association between excessive softness of water and an increased amount of dental caries amongst the school children, and obversely. 2. The association is evident, but it must be remembered that this inquiry deals only with urban districts; had *it* been possible to obtain reliable returns from rural districts its value would have been considerably enhanced. 3. The environmental conditions, so far as it was possible to measure them, do not seem to be a source of the relation between the hardness of water and the *amount of dental* caries. 4. It must be definitely and *distinctly* emphasised that these correlations and partial correlations merely call attention to an association between the nature of the drinking water and the amount of dental caries, and must not be regarded as necessarily indicating cause and effect. 5. There may well be other factors at work which have a greater influence, but if this investigation merely draws attention to a hitherto neglected topic it will not have been undertaken in vain.

Isleworth.

A CASE OF MALARIAL COMA LASTING 46 HOURS: RECOVERY.

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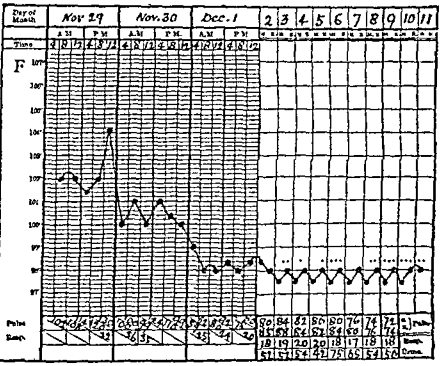
THE following case is perhaps worthy of publication in the columns of THE LANCET, since recovery in a case of such long duration is exceptional, especially in an adult patient.

A. B., aged 23, a gunner serving in the Punjab, was admitted to hospital under my care on Nov. 29th, 1913. He was transferred from camp by Captain A. G. Jones, R.A.M.C., who informed me that the illness began whilst on manœuvres. He had been suffering from fever about three weeks previously, for which he was treated in hospital. He recovered from this and proceeded on manœuvres, during which time he was receiving quinine daily. Early in the morning of the 29th, however, his comrades found him lying in his tent quite unconscious.

When I first saw the patient he had been unconscious for four and a half hours. On examination he was found to be in a condition of coma, with pupils widely dilated but which reacted directly and consensually to light. There were no signs of ocular paresis. The knee-jerks and plantar reflexes were both normal. All the limbs were stiff and rigid. His breathing was stertorous. The temperature was 102° F.; the pulse was regular and full, and its rate 104 per minute. There was incontinence of urine and no specimen was available for examination. There was no evidence of any injury to the skull and no localising symptoms of cerebral hæmorrhage, and there was no smell of alcohol. The heart was normal, as also were the lungs. Captain J. W. H. Babington, I.M.S., reported that the fundi oculorum were quite normal except for slight venous dilatation and the presence of some fine dark pigment on the surface of both discs. A blood slide taken immediately on admission showed no malarial parasites, but with the history of fever before the onset of coma the case was considered to be one of malignant malaria. An intramuscular injection of 10 grains of quinine hydrochloride was given at once, and this was followed after an interval of one hour by 5 grains of the same drug in a pint of normal saline *viâ* the median basilic vein. Later calomel and pulv. jalapæ co. were given by the mouth. During the day the patient sweated freely, and he was sponged several times. Ten hours after admission a second intramuscular injection of 10 grains of quinine hydrochloride was administered.

Nov. 30th.—A slight improvement was evident. The pupils were less widely dilated and reacted well to light, and instead of the eyelids being open and the eyes staring straight above the patient the former were closed and any attempt to open them was resisted. There was still incontinence of urine, and as the bowels had not acted an enema of soap and water was given, but this was retained. At 2.30 P.M. a convulsion occurred; when I saw the patient shortly afterwards he was very cyanosed, his pulse was quick, and his breathing rapid and stertorous. A hypodermic injection of strychnine was given and a pint of normal salt solution administered per rectum. After 30 minutes the colour improved and the breathing became less stertorous. During the afternoon and evening the patient had seven more convulsive seizures; his condition was now very serious and there appeared to be little hope of recovery. These convulsions involved the whole body and they closely resembled the clonic stage of epilepsy. The tongue was bitten during the fits. Later the bowels were well opened, and a small quantity of urine which was secured showed the presence of a trace of albumin. At 10.30 P.M. the breathing was easy and regular; the pupils were contracted to 3 mm. and reacted well to light. Two intramuscular injections of 10 grains of quinine were given during the day, and a total of three pints of saline given per rectum was retained.



Temperature chart.

Dec. 1st.—The rectal salines were continued every three hours during the night. At 2 A.M. some confused sentences were uttered, and two hours later he asked quite sensibly for a drink. At 9 A.M. he was able in a semi dazed manner to reply to my questions. The pupils were normal, as was also the temperature. The pulse-rate was 88 per minute. 10-grain quinine injections twice a day and the salines per rectum were continued. Urine examination: Cloudy, yellow colour; specific gravity 1016; acid reaction, albumin 1/10, no sugar. Microscopic examination of a brownish deposit showed the presence of urates only; there were no casts and no blood cells.

Dec. 2nd.—The patient was now able to take fluid nourishment, and the salines were therefore discontinued. The urine was as previously noted except that the amount of albumin was less. The patient became very restless; he was continually trying to remove the dressings from his arm, and he had to be forcibly restrained from getting out of bed. He also manifested marked delusions of persecution. Potassium bromide 20 grains and chloral hydrate 10 grains, followed by a subcutaneous injection of ¼ grain morphia, were unsuccessful in producing sleep. One injection, 10 grains, of quinine was given.

Dec. 3rd.—The patient's mental condition remained the same, and he suspected that his food was being poisoned. A potassium bromide and tincture of hyoscyamus mixture was given four-hourly during the day, and at night 1/100 grain of hyoscine was administered hypodermically, but no sleep resulted, the patient being restless and talking incoherently all night. Quinine 10 grains three times a day by the mouth was substituted for the intramuscular injections. The urine showed only a trace of albumin, specific gravity 1015.

Dec. 4th.—Magnesium sulphate was given with good result. Up to now no sleep had been obtained since the patient had recovered consciousness. At bedtime $\frac{1}{4}$ grain of morphia was injected subcutaneously, and this was followed by sleep for six hours. But as the delirium continued 30 grains of trional were given by the mouth. This was followed by natural sleep practically up to the evening of Dec. 6th, the patient only waking up for his meals and to pass urine, &c., on which occasions he talked quite sensibly. Dec. 5th.—Quinine was now stopped. The urine was normal in all respects. Dec. 7th.—The patient was now in a satisfactory condition and his mental state quite normal. An uneventful recovery ensued.

Although the diagnosis of this case was not confirmed by the blood examination it seems to me that there can be no doubt that this was a case of malignant malaria. The fact that he had been well dosed with quinine before I saw him would account for the absence of parasites from the peripheral blood. The possibility of the case being one of uræmia is, I think, fairly negatived by the following facts: (1) The daily quantity of urine passed was normal; (2) the albumin only amounted to a trace, which disappeared with the subsidence of the fever; (3) no examination revealed the presence of casts; (4) no history of any etiological factors of nephritis could be obtained; and (5) the administration of quinine in full doses resulted in a complete cure.

The essential pathology of this condition has been conclusively proved to be due to the blocking of the small cerebral vessels with parasite-laden corpuscles. Our object in treatment must therefore be: (1) to destroy the parasites; and (2) to flush them out of the blocked capillaries. In my opinion these cases should therefore be treated energetically and persistently with quinine, commencing with an intravenous injection of 5 to 10 grains of the bihydrochloride in a pint of saline, and subsequently giving intramuscular injections of the same drug in 10 grain doses twice a day until consciousness is restored. The administration of salines intravenously and per rectum will accomplish the second object.

One must not, however, be satisfied with the disappearance of the acute symptoms and the apparent restoration to normal health, for the liability of malignant malaria to recur even after return to temperate climates and after long intervals is a well-known clinical fact. Some even doubt whether malignant malaria can ever be cured, but I think one is hardly justified in taking such an extreme view. Five grains of quinine in tabloid form should be taken every other day for a period of at least three months, and I think if this line of treatment is conscientiously carried out few cases would recur. In the event of the slightest recurrence resort should be at once taken to the intramuscular method of treatment, which is of especial value in combating this form of malaria. I have never seen any harm result from injections of quinine, and I believe that there is no risk of tetanus supervening, provided the injection is made under strict aseptic conditions.

Jhelum, India.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Exhibition of Specimens.—Case of Chorion Epithelioma.—Cæsarean Section under Spinal Anæsthesia in Pregnancy Complicated with Morbus Cordis.—Abdominal Operation After Colostomy for Superior Recto-vaginal Fistula.

A MEETING of this section was held on March 5th, Dr. W. S. A. GRIFFITH being in the chair.

Dr. J. A. BRAXTON HICKS showed for Dr. T. G. STEVENS a specimen of decidual cast passed during the puerperium from the unimpregnated horn of a didelphic uterus. The clinical notes of this case were read at the meeting of this section on Feb. 5th, 1914.[1] The cast, which measured 8 cm. by 6·5 cm. and was 1·5 cm. thick, presented the appearances of an ectopic gestation cast, but was much larger. Microscopically it consisted of fine connective tissue in which were decidual and interglandular cells and the remains of uterine glands.

Dr. CUTHBERT LOCKYER showed a case of Multiple Fibroids removed during the sixth month of pregnancy, in which spontaneous labour occurred at term, followed by a normal puerperium. As the patient was 41 years of age and had never been pregnant, pregnancy was not at first suspected, and treatment for a reddish-brown discharge was carried out for three months in the out-department of Charing Cross Hospital. In October, 1913, a fibroid was impacted in the pelvis, elevating the cervix so that the external os was at the level of the upper limit of the symphysis pubis, and there was an elastic swelling reaching for three fingers'-breadth above the umbilicus. There was secretion in the breasts. On Oct. 24th a fibroid the size of a fœtal head was enucleated from the lower uterine segment, and one the size of a tangerine orange was removed from the back of the uterus higher up. After four months' comparative comfort a healthy female child was born at Charing Cross Hospital.—The PRESIDENT, Dr. WALTER W. H. TATE, Dr. A. E. GILES, and Mrs. SCHARLIEB discussed the case.

Mr. VICTOR BONNEY showed: (1) A Dermoid Cyst of ovarian origin, expelled through the rectum during labour; (2) a specimen removed by operation consisting of the uterus, vagina, and urethra, showing a squamous-celled carcinoma of the cervix co-existent with an adeno-carcinoma of the body of the uterus (a metastatic squamous-celled growth round the urethra was also present); and (3) a Hernia of the Umbilical Cord containing a large portion of intestine which had unwittingly been removed by a practitioner when separating the child at birth. The umbilicus was opened and the cut ends of the gut were united. The child died 12 hours later, and a post-mortem examination showed that practically all the intestine had been removed, the beginning of the jejunum having been joined to the rectum.

Remarks were made by Dr. T. W. EDEN, Dr. H. WILLIAMSON, Dr. G. BLACKER, Dr. BRAXTON HICKS, Dr. R. D. MAXWELL, and Mr. BONNEY replied.

Dr. DRUMMOND MAXWELL showed: 1. A large Interstitial Fibromyoma, 6 inches in diameter in the fundus of the uterus, in a woman aged 23, removed by abdominal hysterectomy after the third stage of labour. It did not complicate delivery, which was spontaneous. Free bleeding ensued after the placenta was expelled. It was found that the placental site occupied part of the capsule of the fibroid, and that it would have been impossible to enucleate the mass without severe mutilation of the uterus. Risks of sepsis were discussed in any expectant treatment, if the tumour had been left *in situ*. 2. Defective Ossification of an Infant's Head. This case exhibited cranial dysostosis, the malformation of the vault of the head being considerable, a large gap existing between the two halves of the frontal bone measuring $3\frac{1}{2}$ by $2\frac{1}{2}$ inches, covered only by tough pericranium. The clavicles were normal. The mother's pelvis showed some contraction, and forceps extraction was necessary. The child died 30 hours after.

Dr. HERBERT WILLIAMSON and Mr. CHARLES NOON contributed a paper on a case of Chorion Epithelioma presenting some unusual features in a woman, aged 39, the mother of two children. After the birth of her last child she was regular for four years. In February, 1912, after three months' amenorrhœa, she passed a vesicular mole. She remained well up to the end of March, 1912, when an abscess was opened per vaginam. She was again better up to July, 1913, when she suffered abdominal pain and vomiting, and began to lose weight. In August there were chest symptoms and slight hæmoptysis. On admission to St. Bartholomew's Hospital on August 4th she was very ill, and there were signs in the left side of the chest. Respirations 40, pulse 108. The skin was jaundiced. There was a large mass in the abdomen extending 7 inches above the top of the symphysis. Per vaginam the cervix was difficult to reach, and a tender, fixed mass occupied the greater part of the pelvic excavation. The question of pregnancy or new growth was difficult. Skiagrams, however, showed dark areas in both lungs, and secondary growth was suspected in the liver. Abderhalden's test by Mr. [illegible] twentieth day after admission. Dr. Williamson showed the mass of growth which occupied the pelvis, and it was remarkable that the uterus itself was little affected, the main portion of the growth being behind the uterus, filling the pelvic cavity and measuring 7 in. by 4 in. It was intimately connected with most of the pelvic viscera, and its lower pole on section exhibited the usual dark-red colour. The liver and lungs contained secondary growths. Sections of the growth and secondary deposits showed typical chorion epithelioma. The value of Abderhalden's test for early diagnosis was pointed out, also the worthlessness of mere exploration of the uterine cavity, seeing that in this case the growth was completely outside the uterine cavity. It was also interesting that 16 months elapsed between the expulsion of the mole and the onset of the symptoms.—Remarks were made by the PRESIDENT, Mr. BONNEY, Dr. S. GORDON LUKER, and Dr. ARCHIBALD LEITCH.

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[1] THE LANCET, Feb. 28th, 1914, p. 609.

Dr. J. D. BARRIS reported a successful case of the treatment of Pregnancy complicated by Morbus Cordis by means of Cæsarean Section under Spinal Anæsthesia from the maternity department of St. Bartholomew's Hospital; also notes of four other cases which he had collected. Dr. Barris's patient had had ten previous labours, the last in April, 1910. She had rheumatic fever in 1901, also in 1910, just before the birth of her last child. At this time there was no sign of cardiac failure, but she had suffered with shortness of breath since. On admission, under the care of Dr. W. P. Herringham, she was very ill, with a dilated heart, dyspnœa, and an almost uncountable pulse. She improved somewhat by venesection and digitalis, and was transferred to the maternity ward, being then about 27 weeks pregnant. A relapse occurred, and owing to the serious condition Cæsarean section was done (1) because rapid delivery with some form of anæsthesia was necessary; (2) because a general anæsthetic was contra-indicated owing to the condition of the heart. Abdominal Cæsarean section was preferred to vaginal on account of the size of the child, and the patient could be sterilised. The operation was quite successful and the patient made a good recovery. Other cases of this nature were quoted by the author.—Remarks were made by Dr. MAXWELL, Dr. BLACKER, and Dr. FAIRBAIRN, and Dr. BARRIS replied.

Dr. EDEN read a paper on a case of Superior Recto-vaginal Fistula dealt with by an Abdominal Operation after Preliminary Colostomy. The patient was a 6-para, aged 38, who was admitted to the Chelsea Hospital for Women with a large recto-vaginal fistula on July 29th, 1913, about five weeks after the birth of her last child. The fistula admitted two fingers and was situated at the highest part of the posterior vaginal wall. The parts were immobile and the cervix could not be drawn down by traction. It was decided to attack the fistula from above by a transperitoneal operation. Colostomy was first performed by Wallis's method, a loop of the pelvic colon being made use of. Three weeks later the fistula was closed per abdomen. The operation consisted in stripping the uterus and posterior vaginal wall from the rectum down to the level of an inch below the fistula. The rectal aperture was then closed in a transverse plane with interrupted stitches taking up all the coats. There was not room for a second row of so a flap of the posterior vaginal wall was the rectum so as to cover over completel of stitches. The uterus was removed, partly further pregnancy, partly to allow more room for the pelvis. The ovaries were both healthy and the were not removed, and the vagina was left open for drainage. The rectal wound did not heal by primary intention, and after a week a foul vaginal discharge occurred with moderate pyrexia. These unfavourable symptoms soon subsided, and 18 days after the operation the lower segment of the bowel was irrigated from above and found to be watertight. Four weeks after closing the fistula the continuity of the pelvic colon was restored by excising the colostomy opening and re-uniting the gut by end-to-end anastomosis. From this the patient made a good recovery. The author claimed for colostomy certain definite advantages in dealing with bowel fistulæ high up in the vagina: (1) it permitted preparation of the operation area to be carried out; (2) it ensured that the portion of bowel repaired could be kept absolutely at rest during healing; and (3) it prevented re-infection of the operation area from the fæcal stream The steps of the operation performed were illustrated with the epidiascope.—Remarks were made by the PRESIDENT and Dr. GILES.

PATHOLOGICAL SECTION.

Lesions of the Kidney in Ulcerative Endocarditis.—"Eleidoma."

A MEETING of this section was held on March 17th, Dr. F. W. ANDREWES, the President, being in the chair.

Dr. J. F. GASKELL read a paper on the Lesions of the Kidney in Ulcerative Endocarditis. He said that such lesions were of two kinds, though both were attributable to the same mechanical cause—namely, the carriage of particles from the infected valves to the organ. If the particles were large septic infarction occurred; if the particles were small a form of nephritis was brought about due to the lodging of them in glomerular capillaries. Such lesions, in contra-distinction to those of glomerulo-tubular nephritis, in which the whole organ is affected, only affected a variable number of capillaries in a variable number of glomeruli. This form of nephritis had been claimed by Schottmüller, Libman, and others to be diagnostic of the infection of the heart valves by a certain streptococcus which they named streptococcus viridans, a type of infection which usually lasted some considerable time; it was probable, however, that, as Horder and others had shown, this organism was identical with the type of streptococcus found in normal saliva—namely, streptococcus salivarius. Dr. Gaskell's paper also supported the view that embolic focal nephritis was a [illegible] of infection of the heart valve [illegible] ulcerative endocarditis produced by inoculation with streptococcus salivarius from the normal saliva.

Mr. S. G. SHATTOCK described a large tumour under the name "Eleidoma," which had been removed from the back by Sir William Fergusson, and was at present in the museum of the Royal College of Surgeons of England. It belonged to a group of neoplasms first clinically described by Edward Cock, of Guy's Hospital, in 1853. Sir James Goodhart had referred briefly to such from the anatomical side. Mr. Shattock had seen one or two, but they were rare. They were benign epithelial tumours arising in connexion with the hair follicles, and though benign closely resembled squamous-celled carcinomata in structure. He suggested the name "folliculoma." Calcification of the keratinising epithelium occurred in varying degrees, but it might be absent. They were not of the kind described by Malherbe (1881) as "calcifying epitheliomata of the sebaceous glands," which were keratinising and calcifying papilliferous cysts of the hair follicles. In birds there were peculiar "tumours" due to the retention of feathers in groups of follicles, accompanied with the accumulation of desquamate [illegible] cysts, as distinguished from [illegible] however, more comparable to [illegible] subject than to the proper [illegible] The peculiarity of the tumour exhibited was its remarkable opacity and whiteness. This was not due to calcification, nor was it due to the kind of saponification which rendered the fat opaque in "fat necrosis." The last possibility was excluded by microchemical tests. The opacity remained after the action of ether and alcohol, and the addition of hydrochloric acid produced no change; there was no liberation of droplets of oleic acid from any calcium oleate present, such as occurred in fat necrosis. The singular physical characters were due to the presence of a skein in the epithelial cells, of vast collections of which cells the growth consisted. This skein occurred in cells answering to the stratum corneum; in some cells it was very loose and open, in others closer and finer. It apparently was the same in kind as the delicate feltwork in the cells of the stratum corneum of the thick epidermis from the heel. Using the term "eleidin" rather as a generic one than as meaning absolutely the granules and flakes in the stratum granulosum, Mr. Shattock ventured to name the tumour an "eleidoma," after Virchow's manner of using such a term as psammoma; for though the last was an endothelioma it was one in which a particularly large amount of calcification of the endothelial whorls was encountered; and the master had thought this of sufficient importance to deserve a distinctive name.

SECTION OF LARYNGOLOGY.

Exhibition of Specimens and Cases.

A MEETING of this section was held on March 6th, Dr. D. R. PATERSON, the President, being in the chair.

Dr. H. J. DAVIS showed the following:—

1. Pathological specimens of Tonsils from a case of Lymphatic Leukæmia in a boy aged 7 years.

2. Preparation from a child, aged 2, showing the left recurrent laryngeal nerve involved in a mass of lymphomatous glands.—Sir FELIX SEMON remarked upon the rarity of laryngeal paralysis in children as resulting from lymphomatous glands.—Dr. A. BRONNER, Mr. E. B. WAGGETT, Sir STCLAIR THOMSON, and the PRESIDENT also discussed the exhibit.

3. Photograph showing two primary sores on the lip and angle of the mouth of a patient aged 22.

4. A man, aged 70, with Necrosis of the Hard Palate since the age of 10 years.—The PRESIDENT suggested that the necrosis was due to congenital syphilis.

5. A man, aged 50, showing a large Pulsating Vessel on the Posterior Wall of the Pharynx.—Mr. W. D. HARMER thought that the vessel was an abnormally placed internal carotid artery, and related a case in which a complete coil of that artery was removed during the operation for adenoids.

6. A woman, aged 45, with Loss of Septum and Columella of Nose.—Dr. WILLIAM HILL, Dr. DAN MCKENZIE, Dr. F. DE HAVILLAND HALL, and Sir STCLAIR THOMSON discussed the case, and the PRESIDENT remarked on the support to the tip of the nose which is afforded by the lateral nasal cartilages.

7. A woman, aged 44, with Malignant Disease of the Ethmoid extending along the antral roof and perforating the maxilla at the outer angle of the orbit; two operations.

8. A woman, aged 30, with Redness, Infiltration, and Œdema of the Nose and both Cheeks of six months' duration; there was an empyema of the left antrum.—The PRESIDENT remarked upon the rarity of the typical signs of antral suppuration as described by the surgical text-books.—Dr. E. A. PETERS suggested that the condition was entirely due to a septic fissure which was present in the right nasal vestibule.

Mr. W. STUART-LOW exhibited a case of a man, aged 50, showing Columnar-celled Epithelioma of the Nasal Cavity and Left Antrum.

Mr. HERBERT TILLEY showed a Laryngeal Tumour; ? adenoma of right ventricular band. He stated that the pathologist's report showed that the condition was one of adenoma of laryngeal ventricle.—Mr. F. A. ROSE disagreed with the report upon the microscopical section shown with the case, and suggested that the condition was chronic inflammation.—Sir FELIX SEMON thought the case was tuberculous laryngitis.—Mr. E. D. D. DAVIS related a similar case, and stated that Mr. S. G. Shattock would not give a definite opinion upon the microscopical section; later the case showed signs of tubercle of lung.

Mr TILLEY also showed Frontal Sinus Burrs for enlarging the fronto-nasal canal when operating by the intranasal method.

Dr. DAN MCKENZIE exhibited a Maxillary Antroscope modelled on the cystoscope. He deplored the lack of detail obtained by this form of instrument, as did also Mr. ROSE, Mr. WAGGETT, Dr. W. H. KELSON, and Dr. PETERS.—The PRESIDENT stated that he gave up attempting to make use of this instrument eight or nine years ago.

Mr. C. W. M. HOPE showed two cases of Acute Suppurative Frontal Sinusitis due to bathing.

Dr. PETERS exhibited a case of Lupus of the Nose; lupus or chronic tuberculosis of the larynx commencing in the left ventricle; improvement with B. emulsion; pregnancy followed by relapse of local condition and consolidation of right lung.—Sir STCLAIR THOMSON related that it was not unusual for women with nasal lupus to develop phthisis after marriage and motherhood.

Dr. JAMES DONELAN showed a female, aged 26, with a Growth on the Left Vocal Cord.—Mr. TILLEY thought it a case of intrinsic carcinoma, and Dr. DONELAN suggested late recurring papilloma.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Radium and Radiation as a Therapeutic Agent.

A MEETING of this society took place in the board room of the Great Northern Central Hospital on March 12th, Dr. T. WILSON PARRY, the President, occupying the chair.

Dr. W. S. LAZARUS-BARLOW gave a lecture on Radium and Radiation as a Therapeutic Agent. He said that finality was far from being reached upon many points in connexion with radiotherapy and indicated dosage as an example. Putting on one side the question of the injurious action of radium in sufficient quantity upon animal cells as being established beyond doubt, he addressed himself to certain propositions arising from that fundamental fact. Thus he pointed out that all varieties of cells were not equally injured by the same dose and suggested that in this fact might lie the explanation of the different degrees to which various growths responded to radium treatment. The crux of the whole radium question was whether radium acted upon a new growth in a different way from a thermocautery or a strong acid. There was some evidence that cancerous cells when irradiated short of death could induce an active immunity and he instanced the observations of Mr. Clifford Morson, Dr. B. H. Wedd, and Dr. Charles Russ in this connexion. If such an immunity reaction were produced it would probably be strictly specific for the individual, so that the production of an "anticancerous" serum analogous to antidiphtheric serum seemed highly improbable. He insisted upon the necessity of histological examination, and especially upon the importance of examination for Altmann's granules in the case of sarcoma, whenever radium was about to be used for a new growth. He further insisted upon the necessity of periodic examination of radium tubes by the physicist in order to be certain that radium was actually present in the quantity that the surgeon believed. He thought that besides its use in frankly inoperable cases radium should be tried in cases in which surgical operation, though not impossible, was notoriously unsatisfactory—*e.g.*, malignant neoplasms of the tonsil. On the other hand, where surgery could show a fair percentage of success the use of radium in place of the knife was not indicated at the present time, whatever might be the case in the future. Certainly, upon experimental grounds, use of radium immediately after surgical removal of a growth appeared to be contra-indicated; this was not the case with X rays, and no explanation of the apparently different behaviour of the X rays and the closely allied gamma rays of radium could be given at present. Finally, he pointed out that when a growth had been absorbed after radium treatment the products of the disintegration of that growth must have been taken up into the system at large, and he suggested that so long as the individual had not eliminated these disintegration products it was indicated by pathology that he would be in an unsatisfactory condition for any surgical treatment.

The PRESIDENT thanked Dr. Lazarus-Barlow in the name of the society for a lucid and interesting lecture, and said that everyone present had paid great attention to the line of thought indicated.

Dr. H. C. G. SEMON, in the discussion which followed, desired to associate himself with the President in an expression of his very cordial appreciation of Dr. Lazarus-Barlow's exceedingly lucid and interesting lecture, and referred shortly to a case which amply illustrated the latter's warning against the use of radium immediately subsequent to surgical removal of malignant growths. A well-known surgeon recently removed an epithelioma from the pyriform fossa by lateral pharyngotomy in an old man of 74. Much against his inclination he was persuaded to insert a tube containing 100 mgm. of radium in the wound, which was partially left open for that purpose for a period of 24 hours. Ten days later, after primary union had taken place, the whole wound broke down and a slough of the size of half-a-crown formed in the pharynx and led to a fistulous communication with the exterior, a result which was entirely outside the very considerable experience of the operator, and one which in his opinion could only have been produced by the devitalising action of the radium emanations on the normal tissues. Regarding the quantity of radium best employed as a dose at the present time Dr. Semon quoted from the experiences of Professor Bumm and Professor Döderlein,[1] who had had considerable experience in the treatment of malignant disease of the cervix and uterus. These authors had entirely given up the use of large doses and their practice was to use not more than 50 to 60 mgm. of the salt at any one application. Professor Bumm had stated that 300 mgm. doses would produce a rise of temperature as high as 106° F. in a few hours, and that 500 mgm. were positively dangerous to life. Dr. Semon asked if Dr. Lazarus-Barlow could support this statement from his own experiments, and also whether his opinion of lead filters coincided with that of Professor Bumm, who had stated that they should never be used because of the dangerous secondary radiations produced in them by the γ rays. This author maintained that they were the probable cause of the hyaline degeneration of normal fibrous tissue, which not infrequently followed the application of radium after a latent period of six months to a year, and which had in consequence of the production of hard strictures led to the erroneous belief that a malignant recurrence was in course of development. Dr. Semon asked if the lecturer had ever met with this complication.

Dr. W. A. MALCOLM asked Dr. Lazarus-Barlow how it was that X radiation was of such undoubted value in recurrent nodules after breast operations, whereas the contrary was true of radium.

Mr. CECIL ROWNTREE quoted a case of periosteal sarcoma of the femur in a woman, where the growth had not been much affected by radium, but where the effect on the patient was wonderful, for instead of being bedridden she could walk up and down the ward and was quite cheerful.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

Diseases of the Œsophagus.

A MEETING of this society was held at the Royal Devon and Exeter Hospital on Feb. 20th, Dr. RANSOM PICKARD, the President, being in the chair.

Dr. WILLIAM HILL (London) gave a lecture on Modern Methods of Diagnosis and Treatment in Diseases of the Œsophagus, with especial reference to the Employment of Radium in Malignant Stricture. After demonstrating the method of inspection by œsophagoscopy and œsophago-gastroscopy on patients under cocaine anæsthesia, 100 lantern slides were shown illustrating the following points: 1. The mode of formation, anatomical characteristics, radiographic and œsophagoscopic diagnosis and treatment of so-called "œsophageal pouches" (pharyngeal diverticula), with skiagrams of six cases under the author. 2. The diagnosis and treatment of foreign bodies. 3. Non-malignant strictures, with special reference to treatment by various methods of dilation and by intubation. No unequivocal case of idiopathic spasm—e.g., cardiospasm—had been met with in the author's large experience. 4. Various types of malignant stricture. 5. The forms of radium apparatus employed by the author, their method of introduction, statistics of results, and skiagrams taken before and after treatment. The improvement in many instances was not only marked as regards subjective symptoms, but was objectively shown by the œsophagoscope and by radiography. All present had an opportunity of observing through the œsophagoscope a stricture, formerly fungating, which had been held in check for four years by eight applications of radium made at intervals.

At the termination of the lecture a vote of thanks, proposed by Dr. W. GORDON, and seconded by Mr. R. A. WORTHINGTON, was awarded to Dr. Hill by acclamation.

Treatment of Uterine Myomata by X Rays.

A MEETING of this society was held at the Royal Devon and Exeter Hospital on March 13th, Dr. PICKARD, the President, being in the chair.

Dr. J. DELPRATT HARRIS read a paper on the Treatment of Uterine Myomata by X Rays. In this it was stated that hitherto after the continued use of styptics and prolonged rest there remained to the family attendant no other course but that of hysterectomy as the last resource. No one could approach this operation with feelings of satisfaction until all other means had been given a fair trial. Within the last few years, however, a third course of procedure had been coming to the front, that of treatment by the therapeutic use of X rays. Although many technical considerations intervened relative to bulk, depth, and dosage, they would appear to have crystallised into two main schemes of treatment, the French scheme brought into existence and elaborated by Dr. Bordier of Lyons, more particularly; and the German scheme elaborated by Albers Schönberg of Hamburg, and Gauss of Freiburg, and others. Looking at this form of treatment by X rays from the point of view of the family practitioner, it should be noted that the patient might be up and about, as far as hæmorrhage would allow, if that was a prominent symptom. The patient should have a sitting every day or every other day for nine sittings. These nine sittings constituted a cycle. It was wise to allow 21 days to elapse, when a second cycle should be given. This might be repeated five or even six times, but it was rarely necessary to exceed this number of cycles, for the treatment seemed to be cumulative, and shrinking seemed to go on after the treatment was left off. The sittings were conducted so that the uterus and tumour received a dose of X rays of about one to two milliampères; at the second sitting the right ovary was treated; at the third the left; at the fourth the uterus and tumour again; and so on. In particular cases the patient might be turned on her face and hands, and the posterior aspect of the tumour similarly treated through the sacrum and sciatic notches. Under this system an artificial menopause was brought about, and the patients suffered from flushings, whilst the tumour notably shrank in size, but not always to disappearance, whilst hæmorrhage was abolished, and the patients expressed themselves as feeling better. The German system did not differ in principle from the French, but their tendency seemed to be to give the heaviest possible dose from multiple cross-fire directions for a few days or even hours with a long interval of rest when the course was repeated. In each form of treatment careful filtering of each dose is carried out with 2 mm. to 3 mm. of aluminium. The notes of four cases were read, in each of which notable improvement had occurred, and artificial menopauses established with the usual climacteric symptoms of flushings, with shrinking of the tumour. Thus one case, 39 years of age, commenced treatment in August, 1912. In May, 1913, she was able to undertake all her household duties, looking and feeling quite well. Another case commenced treatment in October, 1912, and in December slight hæmorrhage occurred, but none after. She was able to attend to her household duties after the fifth cycle. In a third case a woman of 43 was similarly treated. It was commenced in September, 1912, and in April, 1913, it was noted that the menopause was complete for four months. It had commenced in the third cycle. In July, at the end of the fourth cycle, she had a period lasting 36 hours only. In the fourth case a woman of 49 had a fairly large fibroma occupying the position of a seven months' infant. Although, as in all the other cases, hæmorrhage was a marked feature, it ceased during the first cycle and did not return. In each of these cases the appearance of exsanguination gradually changing to that of health was most satisfactory.

Dr. F. A. ROPER reported the case of a widow, aged 42, suffering from a somewhat rapidly growing fibromyoma uteri. The chief symptom complained of was pain at the monthly periods, so severe that she was prostrated for four days at every period, and no doubt partly resulting from this she was in an exceedingly neurotic state. The fibroid was estimated to be larger than a croquet ball. Treatment was commenced on May 9th, 1913, on the lines of the Hamburg school, series of five irradiations through five portals of entry—two behind and three on the abdomen—being given on successive days, a clear fortnight elapsing between each series. Seven series were given, a filter of 2 mm. aluminium being used. A sitting comprised five to ten minutes with current 3 to 6 ma. After one normal and two scanty periods six months' amenorrhœa resulted, with complete relief of pain, and shrinkage and sclerosis of the tumour to the size of a tangerine orange. Menopausal symptoms appeared which were relieved on the reappearance of the menstrual flow, which was unaccompanied by pain. There was no trace of dermatitis save slight browning. Comparing this method with that of Professor Gauss, Dr. Roper preferred it on account of the fact that the results were in every way as good as those of Gauss. The excessive doses given by the Freiburg school were, therefore, unnecessary.

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[1] Brit. Med. Jour., Dec. 13th and 27th, 1913.

In the discussion which followed the reading of these two papers Mr. F. W. LANGRIDGE remarked on the resemblance between the uterus and the prostate gland, and asked the readers of the papers whether they had extended the treatment to cases of prostatic enlargement.

Dr. GORDON considered that Dr. Harris was a pioneer in England as regards this treatment, and related a case where mitral stenosis in conjunction with fibromyomata made the operation undertaken for the latter to be fraught with the gravest anxiety. He asked the reason why Bordier considered those cases which have ceased to menstruate unsuitable for treatment.

Mr. C. E. W. BELL alluded to the method of Apostoli where glowing accounts were at first published, although nothing was now heard of this treatment.

Mr. A. L. CANDLER advised that women aged 40 and upwards suffering from fibromyomata, who were blanched from hæmorrhage, should be treated by X rays, and later on have the fibroids removed to guard against possible malignancy in the future. He regarded the X ray treatment as a preliminary to operation.

Dr. R. V. SOLLY stated that tumours of the prostate were frequently composed largely of adenomatous tissue which would be affected by X rays to a very slight extent.

Mr. A. C. ROPER, speaking from the surgeon's point of view, expressed the relief he would feel when freed from the overwhelming responsibility of doing serious operations on cases weakened and depoverished by hæmorrhage. The advantages of X ray treatment were: (1) saves risk of operation; (2) saves necessary rest of six months after operation; (3) the course of six months' treatment less costly, no nursing required, no absolute rest in bed, no risk, and steady improvement. He considered the German method to be most convenient where sittings follow daily.

Dr. HARRIS, in his reply, stated that X rays had a beneficial effect on the enlarged prostate, and that zinc ionic treatment through the rectum had also proved useful. Apostoli's method was merely a form of ionisation of fibroids.

Dr. R. EAGER reported a case of Aneurysm of the Left Ventricle bursting into the pericardium. There was much atheroma of the aorta. He also showed the heart and aorta of a case where rupture of the aorta had taken place into the pericardial sac. There was a specific history in this case.

EDINBURGH OBSTETRICAL SOCIETY.

Etiology of Eclampsia.—The Registration of Stillbirths.

A MEETING of this society was held on March 11th, Sir J. HALLIDAY CROOM, the President, being in the chair.

Dr. JAMES YOUNG, in a paper and epidiascopic demonstration, discussed the Etiology of Eclampsia. He referred to the well-recognised fact that albuminuria and eclampsia were especially apt to be associated with red infarcts in the placenta. As, however, eclampsia was found with an apparently healthy placenta, and no toxæmia where there was definite infarction, the association remained somewhat of a mystery. It was usually believed that the infarction was merely to be looked upon as an accompaniment or as a result. Dr. Young showed from many points of view that infarction was due to involvement of the maternal vessels and not to disease of the fœtal vessels. It had long been known that the chorionic elements could live where there was no fœtal circulation—e.g., in the early trophoblast, in hydatid mole, and in chorion epithelioma. In accidental hæmorrhage, which was known to be especially associated with albuminuria and eclampsia, he showed evidence of placental disease in apparently healthy placentæ. This disease would only be possible where a certain time had elapsed between the hæmorrhage and the removal of the placenta. In this way it was possible to explain the fact that in only 50 per cent. of the cases was there a toxæmia. Dr. Young referred to experimental proof of his thesis that the placenta was the source of the poison. He had isolated a substance from healthy placentæ, which had been appropriately treated, that induced severe convulsions in animals and, in addition, focal necrosis in the liver, a change that was recognised to be especially characteristic of eclampsia.—The PRESIDENT stated that he had learned a great deal. The villus if cut off entirely from the fœtal supply could live in healthy maternal blood. Dr. Young had shown that infarcts were surrounded by blood clots and had also shown that these blood clots pressed upon the surrounding parts of the placental tissue, and by so doing destroyed its vitality. This degenerated part of the placenta was the source of the toxin which caused eclampsia. That point of view had not been presented before. If it be that this toxin was the cause, then Dr. Young had proved his case, because he had shown that he could produce very similar changes in animals. If this were so, a very great advance had been made in the demonstration of the cause of eclampsia. It was, however, a mystery still. With regard to accidental hæmorrhage, he was not so sure that only 50 per cent. were associated with albuminuria.—Dr. D. BERRY HART asked where the toxins came from in the infarct. The toxins were in the blood and also the tissue. The toxin was deposited in the clotted blood before the infarct took place. He did not think that Dr. Young could say that these infarcts were the cause of the eclampsia; if that were so they should at once deliver the women and remove the placenta.—Dr. W. FORDYCE said that in eclampsia certain changes occurred in the liver and kidneys, and he thought Dr. Young had brought no proof to show that the poison was from the placenta any more than from the liver and kidneys.—Dr. R. W. JOHNSTONE asked how Dr. Young applied his theory to the cases where eclampsia occurred after delivery.—Dr. H. OLIPHANT NICHOLSON, Dr. J. W. BALLANTYNE, and Dr. A. C. GUTHRIE discussed the paper.—Dr. YOUNG, in his reply, stated that in the experiments he employed healthy placentæ specially treated to reproduce the diseased condition.

Dr. BALLANTYNE read a paper on the Registration of Stillbirths. He said that the first difficulty was one of definition. Notification was giving notice or making intimation; registration implied declaration and inscription. The Notification of Births Act of 1907 required notice within 36 hours; registration within 42 days. The Notification of Births Act had been adopted only in 316 out of the 1822 Local Government areas in England and Wales; but these areas represented 18,000,000 persons out of a total population of 36,000,000. The persons upon whom the duty of declaring the birth was laid differed in the two cases. The Notification of Births Act went further than the Registration of Births Act of 1874, by calling for declaration of birth with respect to children born alive and to those born dead after 28 weeks' gestation. This involved, therefore, registration of a certain number of stillbirths. By far the most valuable contribution which had been made to the proper understanding of stillbirths and their registration of recent years was that contained in the Report of the Special Committee of the Royal Statistical Society on Infantile Mortality of December, 1912. The committee received replies from 103 registration officers all over the world. The registration of stillbirths was not compulsory in Great Britain and in certain of her dependencies, in Denmark, and in a few of the individual States of the United States of America. Numerous countries had compulsory registration of stillbirths; Great Britain and Ireland had been singularly dilatory in taking steps to acquire powers to discover the stillbirth rate in the population. The Statistical Society's committee stated that, as far as [illegible] are had up to the present [illegible] It was desirable that an [illegible] irth should be adopted. Some countries demanded that all births, alive or stillborn, [illegible] an even a fœtus after four [illegible] a very great difference in the [illegible] countries of what were con- [illegible] rt of the confusion depended on the lack of a correct view regarding ante-natal life. There were an ante-natal life and a post-natal life; and there was one great differentiating character—the respiration. In ante-natal life tissue respiration was dependent on the placenta; in post-natal life it was a pulmonary one and dependent on the atmosphere. If viability be chosen as the delimiting age, then he (Dr. Ballantyne) would prefer 24 weeks instead of 28 weeks, as every improvement in the construction of the *couveuse* and every advance in the feeding of the premature infant might alter the age of viability and make it earlier. But he was ready to concede 28 weeks for the sake of uniformity. "Completely born" required definition; it was when a child's head, trunk, and limbs were all outside the vulva; it was not necessary that the cord should be divided or the placenta expelled. "Dead-born child" should be applied to a child which after complete expulsion from the body of its mother showed that it had ceased to exhibit the signs of ante-natal life at some period prior to labour. Of course, the great sign of ante-natal death was to be looked upon as maceration. Ulceration was in no degree putrefaction. There were also those children who had died in the birth, whose hearts could be heard at the beginning of labour but who showed no signs of ante-natal life at the moment of birth; these might be called "dead-in-birth children" and the condition "intra-natal death." There were two groups of stillbirth—one which passed into post-natal death, and the other which was resuscitated by the efforts of the medical attendant. But resuscitation was not an accurate term—its meaning was restoration to life; but in these infants it was not so much a restoration as a substitution of one form of vitality for another. Dr. Ballantyne suggested the word "trans-animate," though it was not quite satisfactory. "Stillbirth" should be limited to those which have not assumed the characteristic phenomena of post-natal life. There was great necessity for the compulsory registration of these ante-natal and intra-natal deaths. Great Britain and Ireland stood almost alone among the civilised nations of the world in neglecting this attempt to discover how many lives in their population were lost before and at birth. The cause of these deaths, if known, could be added on [illegible] There had been a great reduction [illegible] the first year of life since special [illegible] to it. A Stillbirths Registration Act would give statistics and rouse effort to the greater care of the ante-natal child and to the prevention of congenital diseases. It had been calculated that no less than 35 per cent. of the total mortality under one year of life was due to congenital disease.—Dr. Ballantyne's paper was referred to the council for consideration and report to the May meeting of the society.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on March 12th, Colonel Bruce M. Skinner, M.V.O., A.M.S., the President, being in the chair.—Major E. T. F. Birrell, R.A.M.C., read an interesting paper entitled "Some Experiences of the Balkan Wars." Major Birrell went out to the Balkan wars under the British Red Cross Association, and was appointed by them commandant for the Red Cross services in Bulgaria. Two units were despatched to Bul[illegible] [illegible] surgeons, four dressers (me[illegible] ing orderlies, general dut[illegible] ment of each section was practically the medical and ordnance equipment of a section of a field ambulance without tents or vehicles, but with the addition of the then field pattern of X ray apparatus, a small petrol engine, and some special surgical equipment. The units on arrival at Sofia received orders to proceed to the front and open a hospital there. The journey as far as Jamboli was accomplished by rail. During the journey three types of ambulance trains were met with: (1) In Servia a specially fitted up train, consisting of covered baggage wagons for the patients, painted white with red crosses, and each fitted inside with eight wooden berths in two tiers, besides ordinary passenger coaches for the surgeons and attendants; (2) in Bulgaria ordinary passenger coaches, the wounded sitting or lying on the seats; and (3) ordinary baggage wagons, with straw or matting for the patients to lie upon. Major Birrell described the journey by road to Kirk Kilisse from Jamboli, and the difficulty of getting the men together in the morning when distributed overnight in billets. When the units arrived at Kirk Kilisse the wounded were just beginning to come in from Chatalja, where heavy fighting was going on; the slighter cases came first, but many looked worn and hungry, and many of the more severely wounded arrived with their bandages soaked with pus and blood. The hospitals were crowded even to the passages and landings. The Red Cross units were given a building in which to set up their hospital. Convoys of wounded were organised from time to time, the vehicles used being bullock and buffalo carts, both of which were innocent of any springs. The wounded were simply placed on fodder on the floor of the wagon. Very severe cases were, however, generally placed [illegible] ch mini- [illegible] medical [illegible], but at many stations the Bulgarian Red Cross Association had established rest camps, or at least places where bread could be obtained. The great problem at Kirk Kilisse was the supply of water. There was none laid on to the hospital; the supply had to be carried in barrels on bullock wagons. For drinking purposes the water was purified by the addition of bisulphate of soda; no ill-effects could be traced to the drinking water. Flies were a great pest; they swarmed in the tents and hospital; no attempt could be made to destroy the breeding-places of the flies, as these were too widespread. Cholera and enteric fever were the diseases of most interest, though no cases of the former came to the hospitals at Kirk Kilisse, but at Chatalja there were some 23,000 cases with 3000 deaths—a very low death-rate. Enteric fever was fairly common during the first war, but in the second only one case was seen. Most of the cases during the first war were treated in the Russian hospital by Dr. O. Clarke, with vaccine provided by the Royal Army Medical College. The results were very satisfactory, and Dr. Clarke is going to publish them. The Bulgarian war ration was satisfactory as regards its energy value. A most interesting point, however, was the sugar hunger, from which both staff and patients suffered. Regarding the effects of the sharp-pointed Turkish bullet, there did not appear to be any difference in the character of the wounds when compared with those from th[illegible] Servian bullet. All the wounded were septic. [illegible] from Chatalja, those in which [illegible] emorrhage had been plugged, and this was a very fruitful cause of sepsis. In both wars the [illegible] of iodine as an antiseptic was abundantly proved. A w[illegible] was found to be very sat[illegible] been condemned by foreign observers in the Balkan wars; this was no doubt due to the abuse of the drug which was noticed. The favourite Bulgarian application to a wound was [illegible] alcoholic solution of iodine on a swab on the end of [illegible] raw surface [illegible] the X rays was enormous; not only was time saved in diagnosis, but the treatment was rendered easy and accurate.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Leeds General Infirmary on March 1[illegible] the President, being in the [illegible] by [illegible] n [illegible] methods of suggestion and psychotherapy so that they might be employed with precision instead of indeliberately [illegible] as at present. While pointing out that [illegible] psychotherapy and occasionally [illegible] s experience it was but seldom [illegible] in many cases. More [illegible] of Dubois [illegible] patient by graduated conversations. He pointed out the great benefit that resulted from the employment of deliberate suggestion in regard to hospital cases. He also emphasised the fact that the "rest-cure" had been largely used in unsuitable cases with consequent aggravation of the symptoms; more often a "work-cure" was required for the restoration to normal of the patient's perverted over-attention to his own ailments.—Dr. R. G. MacD. Ladell showed an unmarried woman, aged 41, who had a history of occasional vomiting over two years, gradually increasing in frequency. The patient became very emaciated. Drug treatment, &c., had no effect. Laparotomy was performed in July, 1912; no morbid condition was found, and nothing was done beyond dividing some peritoneal adhesions. Slight improvement was followed by a relapse to the former state. She was treated by hypnotic suggestion in January, 1913. Deep sleep and amnesia were obtained from the first with definite improvement. There was complete cure after about a dozen sittings, and no relapse had occurred to date. —Mr. W. Thompson showed:—1. Two Calculi which were impacted in the ureter near the base of the bladder, and which had been removed by the extraperitoneal operation. 2. A calculus impacted in the ureter. The case had been regarded as one of appendicitis and appendicectomy had been performed, but the symptoms persisted. The diagnosis was cleared up by X ray examination.—Dr. C. Oldfield showed a specimen of Ectopic Pregnancy which continued to the sixth month of gestation. The patient, aged 30, was dilated and curetted a year ago for sterility. Six months ago she missed her period for the first time; three weeks later she began with symptoms (chiefly vaginal blood discharge and pelvic pain) which continued with intervals up to December, 1913. Abdominal symptoms with more bleeding from this date to the present were the leading features. The physical signs resembled those of a retroverted gravid uterus for which it had been mistaken. At the operation a partly macerated sixth month fœtus lay free amongst the small intestine. The placenta was large and infiltrated with blood clot, was attached to the pelvic organs, and firmly adherent to the right tube. This, the site of original implantation, was removed with the placenta attached. Separation of the placenta resulted in free hæmorrhage, which soon stopped. The abdomen was closed without drainage, and the patient is making satisfactory recovery.—Mr. S. W. Daw gave a demonstration of a method of reducing intussusception by forceps dilatation at the point of constriction.—Dr. A. H. Miller demonstrated a method of growing tubercle bacilli on media prepared from sperm oil and other waxy substances.—Mr. J. F. Dobson showed specimens from some cases of Nephrectomy. In one case a closed tuberculous pyonephrosis on the right side, probably of many years' duration, was associated with tuberculous disease of both testicles and of the prostate. After investigation of the secreting capacity of the left kidney by cystoscopic examination the diseased kidney was removed. The patient improved very quickly after the operation, and the painful enlargement of the testicles diminished rapidly.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 20th, Dr. David Ross, the President, being in the chair.—Mr. R. M. Vick showed: 1. A girl, aged 6, with a Tuberculous Abscess over the Lower End of the Radius, and its skiagram. 2. A boy, aged 4, with a Periosteal Tuberculous Abscess over the Iliac Crest, and its skiagram. 3. A man, aged 24, whose right testicle and epididymis were enlarged and tender, and whose right prostatic lobe was enlarged. There was a history of 18 days' duration and none of gonorrhœa. 4. A skiagram of a Transverse Fracture of the Patella in a man with no other symptom than stiffness on extreme flexion of the knee. 5. A baby with two fifth toes on each foot. The skiagram showed the related metatarsals were nearly double the normal width. 6. A young woman with a Perforation of the Soft Palate, whose Wassermann reaction was positive. 7. A man, aged 45, with Internal Strabismus, who suffered an intracapsular fracture of the femur as a boy; is now the subject of phlebitis of the internal saphena, and has both testes atrophied.—Dr. A. Feiling showed: 1. A man aged 46, with the typical signs of Pseudo-hypertrophic Paralysis that began 20 years ago. There was a family history of the disease. 2. A man, aged 40, with Graves's disease without exophthalmos, with hand tremors on extension, an enlarged thyroid, and pulse varying between 108–116, in whom there had been recurrent attacks of tonsillitis. 3. A woman, aged 47, who had marked Right Hand Tremor of large excursion and some of the left hand of less excursion which developed in a night and has continued for two and a half years. The right grasp is weaker than the left. The right leg drags a little in walking. Dr. Feiling thought a vascular lesion at the base of the mid-brain the probable pathology. 4. A woman, aged 67, of wooden facies, with Tremor of both Hands when at rest and some rigidity of the arms due to paralysis agitans.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 11th, Dr. P. Watson-Williams being in the chair.—Dr. D. A. Alexander showed a case of Varicosity of the Collateral Venous Circulation as a result of thrombosis of the common iliac vein during enteric fever.—Dr. F. H. Edgeworth read notes on a case of Enlarged Thyroid with Tachycardia. He did not regard the case as one of Graves's disease owing to the absence of wasting and the regularity of the heart's action, and also the fact that the administration of thyroid extract cured the condition. He suggested that the tachycardia was possibly due to pressure of the thyroid on the vagi.—Mr. C. F. Walters described four cases in which he had tried the autoplastic intramedullary bone pegging of fractures. A portion of the patient's tibial crest was used to manufacture the peg. The method was not successful, union being slow and faulty, and in two of the cases fracture of the tibia resulted from weakening at the site of removal of the peg.—Mr. E. W. Hey Groves showed a loan collection illustrating the operative treatment of fractures, and emphasised the advantage of bolts which go right through the bone over screws which soon become loose.—Mr. Greer stated that he considered that the use of bolts involved too extensive a trauma and too long an operation. He had found Lambotte's apparatus of great use.—Mr. W. Sheen said that he was doubtful of the final result in operated cases, and considered that bad anatomical was frequently found in conjunction with good functional result.

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Birmingham on March 3rd, Mr. Christopher Martin, Vice-President, being in the chair.—Dr. O. E. Purslow showed a specimen of Pyometra due to Intracervical Cancer. The specimen was removed from a multipara, 59 years of age, who complained of irregular hæmorrhage of 15 months' duration following several years' amenorrhœa. There had also been difficulty in micturition. On examination, a symmetrical tumour was found reaching above the pubes and filling the pouch of Douglas. This was diagnosed as an enlarged and retroflexed uterus. The cervix was situated high up behind the pubes, and only the posterior lip could be reached by the finger. This was normal. A degenerated fibroid was suspected, and it was not until the abdomen was opened that the exact nature of the disease was recognised. Panhysterectomy was performed, and the patient made a good recovery. The unusual features of the case were the large size of the pyometra, the uterus containing two pints of foul-smelling pus, and the fact that the cervical carcinoma could not be felt on digital examination per vaginam.—The case was discussed by Mr. F. Edge, Professor Thomas Wilson, Mr. L. Kirkby Thomas, Mr. H. Beckwith Whitehouse, and Mr. Martin.—Mr. J. Furneaux Jordan showed a specimen of Double Ovarian Cystic Tumour of intraligamentary development.—A discussion followed, in which Professor Wilson, Mr. Edge, Dr. Purslow, Mr. Martin, and Mr. Jordan took part.—Professor Wilson showed a specimen of Diffuse Ovarian Suppuration with Tubo-peritoneal Cyst.—Mr. Martin, Mr. Jordan, Dr. Purslow, and Mr. K. M. Pardhy entered into the discussion of this case.—Mr. Edge showed a specimen of Carcinoma of the Ovary with metastasis at base of the appendix vermiformis.—The case was subsequently discussed by Mr. Whitehouse and Mr. Edge, and the specimen was referred to a pathological subcommittee consisting of Mr. Whitehouse, Mr. Edge, and Mr. Smallwood Savage.—Professor Wilson read a short communication upon Concealed Accidental Hæmorrhage: Cæsarean Section: Recovery. The specimen, consisting of a uterus removed by Cæsarean hysterectomy, was of particular interest, inasmuch as it showed extensive subperitoneal and intramuscular hæmorrhages. These were most evident at the uterine cornua. Microscopical preparations showed extreme degeneration of the myomatous elements in the uterine wall. The degeneration appeared to be hyaline, but its exact nature was so far undetermined. The case was of considerable interest because it raised several new points in the pathology and causation of the hæmorrhage in this condition.—In the discussion which followed Mr. Martin, Mr. Jordan, Mr. Savage, Mr. Edge, and Dr. W. H. C. Newnham took part.—Mr. Edge read a short communication upon a case of Inversion of the Uterus. The patient, aged 28, a 3-para, was admitted to the Women's Hospital, Birmingham, on August 17th, 1913. Five days previously she had given birth to her fourth child and had been attended by a midwife. No exact details were obtainable as to what had previously transpired, but she was sent into hospital as a case of puerperal fever following post-partum hæmorrhage. On admission the woman was acutely ill, with a pulse of 160 and temperature 104° F. Preparations were made for obtaining a swab from the uterine cavity, but upon vaginal examination a rounded mass was felt within the vagina. Bimanually the uterus was absent, and a diagnosis was made of "uterine inversion." It seemed hopeless to perform any abdominal or vaginal section. Nevertheless, by dilatation of the cervix from above and reduction of the parts last inverted the condition was gradually reduced. The uterine cavity was cleansed with hydrogen peroxide and packed with iodoform gauze. The following day the patient's temperature was 105° and the pulse 160. She was treated with polyvalent antistreptococcic serum and eventually made a perfect recovery.—Mr. Martin, Mr. Jordan, Dr. Purslow, and Professor Wilson took part in the discussion upon this case.

Reviews and Notices of Books.

Acute Abdominal Diseases, including Abdominal Injuries and the Complications of External Hernia.

By JOSEPH E. ADAMS, M.B., M.S. Lond., F.R.C.S. Eng., Senior Assistant Surgeon, East London Hospital for Children, &c.; and MAURICE A. CASSIDY, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., Physician with Charge of Out-patients, St. Thomas's Hospital, &c. London: Baillière, Tindall, and Cox. 1913. Pp. 541. Price 12*s.* 6*d.* net.

THERE is hardly any more difficult department of medicine than the acute affections of the abdomen, especially as regards diagnosis, and as the affections include some which may be called medical and also many which are undoubtedly surgical, the subject can be adequately treated only by the combined efforts of a physician and a surgeon. Therefore we consider that the authors have done well to collaborate in the production of this volume, and the result is in every way satisfactory. The chapter on the anatomy of the abdomen is adequate, and we are glad to see that special attention has been paid to the peritoneal fossæ, which are the cause of some of the most puzzling of the acute abdominal conditions. The chapter on the investigation of the abdomen is well written, and should afford useful assistance to the inexperienced. The value of the information given by a leucocyte count is emphasised, but the authors point out that Cabot has shown that in bleeding gastric ulcers without any perforation the leucocytic count may vary from 12,000 to 24,000 in 27 per cent. of the cases.

The chapter on laparotomy is admirable. We agree entirely with the advice given that it is very undesirable, if it can possibly be avoided, to move a patient with an acute abdominal condition for the purpose of operation. While it is generally necessary to take the poorer patients from their homes to the hospital, for an operation is usually impossible at their homes, in the case of private patients it is much better not to require the removal even to a nursing home, for an abscess may give way and a fatal general peritonitis may result.

In the chapter on intestinal obstruction we find an interesting table in which 500 cases of obstruction occurring at St. Thomas's Hospital are analysed; from this table it appears that in more than one-third of the cases the condition present was intussusception; carcinoma of the cæcum and colon formed 15 per cent.; and adhesions provided 12 per cent.; but no other cause gave rise to more than 10 per cent. of the cases.

After the subject of intestinal obstruction has been fully treated the various abdominal organs are taken in turn, and the conditions which may cause acute abdominal symptoms are discussed. Appendicitis naturally occupies a very large portion of the space, and the authors express the opinion, which is indeed held generally now, that immediate operation is always indicated. The chapter on the complications of external hernia is good, and we would especially draw attention to the chapter on abdominal injuries, by no means the least difficult of the conditions giving rise to acute abdominal symptoms. The final chapter is important, for it deals with diseases which simulate acute abdominal lesions. We agree with the authors that an examination of the chest, of the knee-jerks, and of the pupils should never be omitted in any case in which the question of a laparotomy has arisen.

We have been very pleased with this book; it is a clear exposition of a very difficult subject.

Beri-beri.

By Captain EDWARD B. VEDDER, A.M., M.D., of the Medical Corps of the United States Army. With numerous illustrations in the text and 5 coloured plates. London: John Bale, Sons, and Danielsson. 1913. Pp. 427. Price 18*s.* net.

THIS work, to which was awarded the Cartwright Prize of the Medical Department of the Columbia University, New York, for 1913, has been published by permission of the Surgeon-General of the U.S. Army. The book, so far as we are aware, is the first complete work of its kind to be issued in the English language dealing with beri-beri in the light of the many recent discoveries and marked advances in our knowledge of this hitherto baffling disease. The author is well known as an experimental investigator of the malady, concerning which he has published many interesting papers in the *Philippine Journal of Science*. He has also had exceptional opportunities for becoming practically acquainted with the disease while acting for some continued time as a member of the U.S. Army Board for the study of tropical diseases as they exist in the Philippine Islands, where, as in other parts of the Far East, beri-beri has played havoc among the natives, and especially among the coolies employed on plantations and estates. Captain Vedder defines the malady as an acute or chronic disease characterised by changes in the nervous system, and particularly by multiple peripheral neuritis, resulting from faulty metabolism, usually seen only in those persons who eat rice as a staple article of diet, and directly caused by the deficiency of certain vitamines in the food. The value of the researches made by Fraser and Stanton in the Federated Malay States is acknowledged, as also those of Casimir Funk of the Lister Institute and others, including such pioneers as Eijkmann and Braddon.

The book comprises 16 chapters in which are given a short history of beri-beri, its distribution, prevalence, pathology, and symptomatology; the question of rice and its preparation for human food; the etiology of the malady, and whether it is to be regarded as a specific disease caused by an intoxication, or an infection, or is due to some deficiency of an essential element in the dietary; polyneuritis gallinarum and the beri-beri of animals; infantile beri-beri, ship beri-beri, and epidemic dropsy. Certain theoretical and practical considerations are also discussed, including the prevention of the malady. The author in his conclusion suggests the appointment of an international commission of delegates representing the great nations interested in the prevention of beri-beri, to discuss the advisability and practicability of generally extending the use of undermilled or unpolished rice by means of a tax levied by all nations on highly milled or polished rice, or by any other better method devised by the commission. Included in the book is a very extensive bibliography of beri-beri, and although the author states that it is "not absolutely complete" it cannot be far off, for it contains nearly 1000 separate references from all parts of the world where beri-beri has been observed.

We warmly commend this volume to all who wish to study the etiology of this dangerous disease and the data on which the modern treatment and prophylaxis of the malady are based. The book appears at a very opportune time and should find many readers.

Manual of Operative Surgery.

By JOHN FAIRBAIRN BINNIE, M.B., C.M. Aberd., Surgeon to the General Hospital, Kansas City, Mo., &c. Sixth edition, revised and enlarged, with 1438 illustrations, a number of which are printed in colours. London: H. K. Lewis. 1913. Pp. 1251. Price 30*s.* net.

IT is by no means easy to find words of greater praise to bestow on this edition of this work than we employed for the earlier issues. The book is indeed improved, for it contains several new operations; but it was for all practical purposes perfect before. Whoever criticises this work must first understand its idea, which is to include much that is not to be found in the ordinary text-books of surgery and to exclude much which the text-books contain. It is intended to provide the practising surgeon with information he may need in the performance of an operation; it gives the various methods which have been and are still employed, but only in such detail as a surgeon would require; it omits much that is known to all surgeons. The work is unique, and it should prove in the future as it has proved in the past of the greatest assistance to all who wish to know the various methods of doing an operation. The book now includes several sections omitted in some of the earlier issues, and we commend it to all who operate.

Lehrbuch der Nervenkrankheiten für Aerzte und Studierende.

Von Professor Dr. H. OPPENHEIM, in Berlin. Sechste wesentlich vermehrte und verbesserte Auflage. Mit 523 Abbildungen im Text und auf 14 Tafeln. Two volumes. Berlin: S. Karger. 1913. Pp. 1926 Price, bound, 56 marks; paper, 52 marks.

FIVE years have elapsed since the appearance of the fifth edition of Professor Oppenheim's classic treatise on nervous diseases. These have been years of phenomenal progress in neurology. During them our knowledge has been materially advanced as regards the following subjects, to select but a few at random: epidemic poliomyelitis, syphilis, salvarsan, the glands of internal secretion, the sympathetic nervous system, the physiology and pathology of the vestibular nerve, and the cerebellum. To take account of all the advances in neurology alone is laborious enough, and to adapt them for the purposes of an up-to-date text-book is indeed a formidable task. Professor Oppenheim, however, is nothing if not thorough. The literature of neurology in all languages has been laid under contribution; innumerable separate articles and communications have been perused and their contents noted, with the result that on any topic in neurology the physician will herein find, not merely a survey of the particular subject, but valuable references to literature concerning it. And let it not be supposed that these two volumes of 1926 pages are but a long series of abstracts strung together; nothing strikes the reader familiar with the subject material more than the critical acumen of the author in separating essentials from non-essentials; nothing is more noteworthy than his skill in emphasising what is known and proved and his judicial weighing of evidence where the data are uncertain or incompletely investigated.

Professor Oppenheim's original contributions to neurology have been many and valuable, but it may be questioned whether any reveals more ability than this great compilation. Apart from the descriptions of diseases, there are chapters on anatomy and physiology, and on general symptomatology, each one of which is a book in itself. By original illustrations and others culled from outside sources, by indexes and abundant bibliographical references, by the judicious use of large and small texts, the work has been made as complete and as practical as is possible. Oppenheim's sixth edition is a monument of industry and intellectual power.

Grundriss der Dermatologie.

Von J. DARIER, Médecin de l'Hôpital Saint Louis; autorisierte Übersetzung aus dem Französischen von Dr. Phil. et Med. KARL G. ZWICK, aus Cincinnati, Ohio, U.S.A., mit Bemerkungen und Ergänzungen von Prof. Dr. J. JADASSOHN, Direktor der Dermatologischen Universitätsklinik in Bern. Mit 122 Textfiguren. Berlin: Julius Springer. 1913. Pp. 543. Price, paper, 22 marks; bound, 24.50 marks.

THE dermatology of Darier is widely known, and it has been appreciated by all who have read it, so that no surprise can be felt that it has been translated into German. The value of the translation is measurably enhanced by the facts that Professor Jadassohn has interspersed remarks here and there throughout the text, and has also made several important additions. These are always characterised by their practical value, and form a valuable accretion to the French text. They are printed in italics, so that the reader can readily see what Professor Jadassohn has added. It must have been no easy task to make these additions, for it is to be remembered that this work is somewhat elementary, and it was not intended to be anything approaching a complete treatise; he has exercised a wise restraint in keeping his remarks within bounds so as not to alter the character of the work. In some cases the addition is only a word or two, in others it consists of a paragraph. It may be mentioned that Dr. Darier has approved of these additions, and also that they are never really written from the standpoint of a critic. Dermatologists who are readers of German will be fortunate in possessing this valuable German translation.

Diet in Health and Disease.

By JU[illegible], and JOHN RUHRÄH, M.D. [illegible] revised and enlarged. London [illegible] B. Saunders Company. 1913. Pp. [illegible] Price [illegible] net.

THE fourth edition of this (now) comprehensive work shows considerable extension in several directions consistent with the development of modern ideas on the subject. The previous edition was reviewed in our columns just four years ago, when we expressed a favourable opinion of it because it appeared to us that not only had the authors succeeded in giving a clear presentation of the practical side of the subject, but that they had taken care also to keep their readers in touch with the latest interpretations of those physiological researches that bear upon purely dietetic questions.

The present edition fully maintains this character. Recent physiological advances have necessitated the addition of a section on the mechanism of digestion and the rewriting of a chapter on metabolism and the prescribing of diet. The analytical tables have [illegible] questions. Again, the articles on diabetes and gout show a treatment of the subject fully in accordance with modern research and expressions of opinion. All through we find that a strong attempt has been made to lift the subjects out of old empiricisms. The book shows a thoroughness of treatment and compilation which should render it a real help to practice and a valuable source of reference generally on the science of food.

MISCELLANEOUS VOLUMES.

"THEN, all of a sudden, I wondered if the man of the present day could leave all his luxury behind him and go back into the wilderness and live on what nature intended him to have." And Joseph Knowles, an American painter—being imbued with the spirit of John Hunter, who wrote to Jenner, "Why think? Why not try?"—selected a forest wilderness in the North-West Maine country, known as the Dead River Region, where on August 4th, 1913, accompanied by a number of friends as far as the foot of the Spencer Trail, which rises straight up the side of the Bear Mountain, he smoked his last cigarette, undressed to nakedness in the drizzling rain, waved farewell to all human [illegible] and struck out alone along [illegible] elter, weapons, implements, [illegible] On October 4th he emerged from the Canadian forest on the shores of Lake Megantic, having lived the life of a primitive man for two months in the wilderness of Northern Maine. He wore the skin of a black bear, his legs encased in crudely tanned deerskin chaps, with the hair inside, his feet in moccasins of buckskin, and carried on his back a pack made from woven lining bark of the cedar, holding various implements from the forest. He had a rude bow and arrows and a crude knife made from the horn of a deer; [illegible] The story of what passed [illegible] wilderness, his first adventure, [illegible] mental and the physical man, and much of interest concerning his neighbours of the wilderness and his animal studies, trapping and woodcraft, and the excellence of the training of the boy scouts is to be read in *Alone in the Wilderness*, by JOSEPH KNOWLES (London: Longmans, Green, and Co. 1914. Pp. 296. Price 5*s.* net.). Not the least interesting feature of the book is the reproduction of sketches made in the woods on birch bark with burnt sticks from his fires.——Those venturesome people who enjoy risking their necks mounting climbing—and the mountain seems no longer to inspire the awe it once did—will find much to interest them in *How to Become an Alpinist* (London: T. Werner Laurie. Pp. 218. Price 6*s.* net). In the first place it is written by one who knows what he is talking about, Mr. FREDERICK BURLINGHAM, for has he not kinematographed the Matterhorn? Then it is pleasantly and racily worded with a fund of humour which reaches its highest point in the final chapter, "How to get Killed on the Alps." The humour here, by the way, is put to a distinctly useful purpose, for it is likely that the warnings thus conveyed will stick more in the amateur's mind than if they had been given with solemn gravity. Instruction is given as to choosing an alpine centre, equipment and training and excursions for beginners. Some famous women alpinists receive a chapter. The training of guides is described and the causes of accidents are discussed. Finally, various alpine localities are described, and we would call vigorous attention to the St. Bernard Hospice, particularly to note that 20,000 tourists have annually visited the hospice for years past, when "no charge whatever is made for either food or lodging, and the only request is that the key be left on the chamber door on parting." Mr. Burlingham properly pillories the meanness of those who abuse this magnificent hospitality by slinking off without putting even enough to pay for their food in the chapel offering box, so that the total contributions of this horde of sightseers have scarcely sufficed to feed one-twentieth of their number.——In the second edition of *Mentone as a Health and Pleasure Resort*, Dr. D. W. SAMWAYS has made large alterations in the text, necessitated by the great progress that has taken place in the town since the first edition appeared in 1901. The little book, which b[illegible] imprint of W. T. Southwood and Co., printers, Exete[illegible] contains much interesting [illegible] as well as a description of the modern town and its climate—viewed in the light of experience, of geographical considerations, of the local [illegible] of its meteorological features and statistics. [illegible] and pastimes, and drive[illegible] of travel to and from the place. We must not omit to mention the clever sonnet "To My Mosquito," by "Adrian Ross."

That the importance of proper training of and provision for the feeble-minded has greatly taken hold upon the public conscience is evidenced by the Mental Deficiency Act. Methods of training suitable for this class of people will doubtless be called for as a consequence. For those directly interested in the matter a little book for teachers, entitled [illegible] of the works at Darenth Industrial Colony [illegible] and Imbecile Patients of all ages, will doubtless be found useful. Among the trades that are taught at Darenth are carpentering, bookbinding, envelope and box making, brush and [illegible] and tailoring and wool rug making [illegible] building, and upholstering, [illegible] there is a wide range suitable for various classes of persons. The book is illustrated with half-tones representing the classes at work in the various industries.——*Experience Teaches* (London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. *1914. Pp. 194.* Price, cloth 2*s.*; leather 4*s.*), by IVON TRINDA, is a volume of discursive remarks containing advice, partly to youngsters and partly to their parents and guardians, on school and what to learn, business, married life, recreation, and things in general, with some irrelevant anecdotes. The author urges teaching the boy to work with his hands [illegible] for the blessing of tobacco, [illegible] "display [illegible] and superiors, to manners, customs, habits, [illegible] ancient buildings"; has much that is sensible to say on fresh air and ventilation, the curse of drink, fads, the social vice and its consequences, and not a little that is otherwise on vivisection. We must confess that the mental attitude of a man—obviously a medical man—who catalogues as *admitted achievements* of animal experimentation the discovery of the circulation, the antiseptic treatment of wounds, the rendering possible of brain surgery, chloroform anæsthesia (partly), the clinical thermometer, much of physiology, and the action and dosage of many valuable drugs, and yet asserts that "much of the vivisection conducted nowadays will never have very much bearing on 'research into causation and treatment of disease,'" is to us incomprehensible.——Another little volume of semi-medical essays, four in number, with an introduction, is *The Road to a Healthy Old Age* (London: H. K. Lewis. 1914. Pp. 104. Price 2*s.* 6*d.* net), by THOMAS BODLEY SCOTT. The last essay is a brief outline of the preparation and action of vaccines; the other three are more discursive, discussing fatigue and cheese and wine and galvanism and various aspects of the metabolic class of diseases which are mainly the results of deficiencies in personal hygiene.

JOURNALS AND MAGAZINES.

Annales de Médecine.—Our French *confrères* have grasped one of the inconveniences of the modern tendency to specialisation—that is, the increasing segregation of important original communications in special journals, whereby the difficulty of keeping pace with at least the broad outline of evolution in medicine is greatly augmented. The proportion of these special medical journals to general ones is perhaps more excessive in France than elsewhere. To help in remedying this position a new monthly journal for readers in the French tongue has recently been published under the auspices of Professeur Agrégé Léon Bernard, Dr. Fernand Bezançon, Dr. Georges Guillain, Dr. Marcel Labbé, Dr. Edouard Rist, and Dr. Gustave Roussy. It is called the *Annales de Médecine*, and the first issue, dated January, 1914, lies before us. It will embrace all fields of medicine, both clinical and experimental, and while it particularly aims to represent the progress of French medicine, its pages will not be closed to foreign writers. Besides original communications it will contain the now customary review of current progress, not merely confining itself to presenting an abstract of the work published elsewhere, but rather critically appreciating, at the hands of a competent reviewer, the value of the communication. The present number contains original communications by Professor A. Chauffard on the pathogeny of congenital hæmolytic icterus; Professor Pierre Marie and Dr. J. Lhermitte on the lesions of chronic progressive chorea; Dr. Paul Ravaut on the detection of the preclinical manifestations of nerve syphilis; and M. Rubens Duval on the histologic method of defence of the organism against cancer. The critical review concerns itself with a consideration by Dr. Fernand Bezançon and Dr. S. I. de Jong of recent communications bearing on infectious pleuro-pulmonary congestions. The journal, which is published by Masson et Cie, Paris, the subscription to countries within the Postal Union being 23 francs, is of convenient size, well printed, and is illustrated with admirable coloured plates and half tones. It promises to form a welcome addition to serious medical periodical literature.

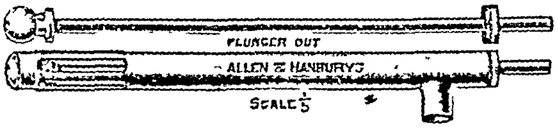
Jahreskurse für ärztliche Fortbildung. Munich: Lehmann. Price 18 marks.—In the January number of this useful summary of the modern point of view in German medical literature Professor Schwarz writes on the Nature of Eosinophilia. He points out that under this heading we must include eosinophilia of the blood and also of the tissues. The condition is a specific reaction of the blood-forming elements in the sense that the eosinophile cells may rise or fall independently of the other leucocytes. It is probably the reaction to a special chemical stimulus. The various clinical conditions giving rise to eosinophilia are then passed in review, beginning with bronchial asthma, in which there is eosinophilia both of the blood and of the bronchial connective tissues, due probably to anaphylaxis. Other causes are worm-infections, skin diseases, and after acute infections; the relation to the secretions of the ductless glands is also reviewed. Professor Lubarsch follows with a discourse on what modern German literature calls *Nachkrankheiten*, which we might translate as "Afterwards-diseases," including tabes or general paralysis following upon syphilis, or gall-stones after typhoid fever. He then writes of some of the problems of cancer, such as precarcinomatous conditions and metastases, pointing out how in the skin cancer supervenes upon a scar, in the stomach upon an ulcer, in the liver upon cirrhosis, in the gall-bladder upon gall-stones. The rôle played by parasites is briefly discussed—for instance, certain nematodes of the rat's stomach produce an epithelial proliferation like cancer. The tissues of the body have a variable resistance to secondary infection, but the writer does not seem to know Sampson Handley's important researches on cancer dissemination. The article concludes with a few remarks on regeneration and transplantation of tissues.

Dental Record.—The March issue contains a paper by Dr. A. A. Mumford on the Oro-nasal Cavities during Adolescence, in which the author gives the results of his investigations into the oro-nasal cavities and acuity of sense-organs in 1000 boys at the Manchester Grammar School. Mr. Spiller, in a note on the Movement of the Premolars, states that the maxillary teeth tend to rotate, the internal cusp in the case of the first premolar moving forwards, and in the case of the second premolar backwards. In the mandible the premolars tend to tilt backwards. Some amount of rotation is, however, often present, and is usually in the opposite direction from that seen in the maxillary teeth. A paper on A Public Dental Service is communicated by Mr. T. Mansell, and there is a short note on the Nerves of the Hard Substance of the Teeth by Mr. G. W. Watson.

New Inventions.

AN INTRA-UTERINE DOUCHE.

THE accompanying diagram represents a douche which I have found very satisfactory in maternity work. The large size of the channels permits of a copious flow of lotion and an easy unobstructed return. I have frequently given a couple of gallons of lotion in a few minutes. If the return should be *partially* blocked by a large clot (I have never found it completely blocked) the inner portion of the instrument can be easily withdrawn without removing the douche as a whole from the uterus. The blunt end is an ample safeguard against perforating the wall of the uterus.



The instrument is manufactured for me by Messrs. Allen and Hanburys, 48, Wigmore-street, W.

Derby. R. DOUGLAS LAURIE, M.B., Ch.B. Edin.

THE GENERAL HOSPITAL, BIRMINGHAM.—The annual meeting of the governors was held on March 18th, under the presidency of Lord Hampton. The board of management reports that the number of in-patients under treatment last year was 5908, an increase of 411, the daily average of patients being 319·5, an increase of 5·25 daily. Of the in-patients 1079 were children under 12 years of age, of whom 272 were under 2 years. During the past year there have generally been over 180 cases on the list waiting admission. The number of out-patients was 58,815, a decrease of 8502. 4317 operations were performed, as compared with 3899 in 1912. The total income during 1913 was £31,990 2*s.* 9*d.* The amount from subscriptions was £7210 2*s.* 9*d.*, or £224 less than in 1912. Ordinary donations were £404 3*s.* 3*d.* £12,995 were placed to the credit of the current account as the moiety of legacies received during the year. The total expenditure was £30,482 10*s.* 3*d.* The deficit at the end of 1912, £7745 9*s.* 4*d.*, has been discharged, and there remains a balance in hand of £132 8*s.* 7*d.* Attention was called to the urgent need of increased accommodation. Before the Insurance Act came in a waiting list of 90 patients was regarded as large; now it was usual to have 180 to 200. It has been decided to open a ward which has been kept fallow for use in case of a serious disaster. The board reports with regret that no single subscription has been given to the hospital by the Insurance Committees or by Approved Societies under Clause 21, and only ten contributions have been received from societies towards the maintenance of in-patients who had no dependents. The total sum received has been £13 7*s.* 11*d.* towards the cost of maintenance of about £77 for the patients in question. The work of the X ray department has increased greatly; 3850 radiographs were taken in the year and many more patients were "screened," and 285 were treated with 2808 applications by X rays and radium.

The Blood-forming Power of Sanatogen as evidenced by the Percentage Increase in Haemoglobin and the Count of the Red Blood Corpuscles.

Medical literature, during the last few years, has recorded many specific instances of the remarkable blood-forming power of Sanatogen.

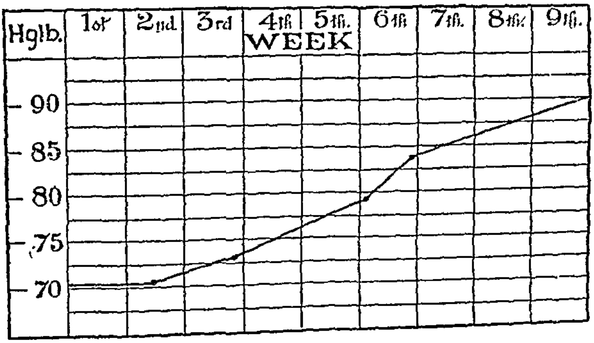
A striking illustration of this fact is furnished in the accompanying diagram, based on observations made by Dr. Starkloff, of the Consumption Sanatorium, Belzig, and published in *Zeitschrift fur Tuberkulose*, No. 6, 1911.

The diagram shows the average increase in the hæmoglobin content of the blood during nine weeks, based on the analyses of thirteen patients.

It proves that during the whole period—from the middle of the second week, when the influence of Sanatogen began to make itself felt, until the end of the ninth week, when the administration of the preparation was discontinued—there was an uninterrupted rise in the hæmoglobin value from about 71 per cent. to 90 per cent., or, roughly, 20 per cent. for the period.

AVERAGE HAEMOGLOBIN INCREASE

from Observations made by Dr. Starkloff at the Consumption Sanatorium, Belzig.



Conclusive as is the evidence furnished by the diagram, its importance is considerably emphasised by similar results recorded in English periodical literature.

Thus, in *The General Practitioner*, the author of an article records the following cases: (1) A girl of 17 was suffering from right supra-orbital neuralgia of considerable intensity. The red corpuscles numbered 3,900,000 per c.mm. and the hæmoglobin value was 40 per cent. She took Sanatogen for twenty-one days, when her red corpuscles numbered 4,200,000 per c.mm. and the hæmoglobin had risen to 56 per cent. She made a quick recovery.

(2) A fair-haired girl, aged 12, suffering from a fourth attack of chorea, showed red corpuscles numbering 3,600,000 per c.mm., with hæmoglobin 49 per cent. At the end of a month the red corpuscles numbered 4,500,000 per c.mm., the hæmoglobin 55 per cent. and the choreic movements had entirely disappeared.

Again, in *The Medical Press and Circular*, the writer of an article records this case:—

A woman, suffering from melancholia, who took to her bed after sustaining a severe shock from the sudden loss of her favourite child, showed red corpuscles numbering 3,800,000 per c.mm., with hæmoglobin 48 per cent. At the end of a fortnight's treatment with Sanatogen, her red cells had risen to 4,000,000 per c.mm. and hæmoglobin to 52 per cent. Her mental equilibrium was restored and she was able to resume her home duties. The physician recording the case states: "The improvement in this case was most striking and suggestive."

A. Wulfing & Co., London, Berlin, New York, Sydney, Cape Town, Shanghai, Bombay.

In this respect there is probably a good deal of truth in the strictures made by the report, but the allocation of the blame is difficult. An enormous amount of additional labour has been cast by the Insurance Act upon local bodies, and upon those persons who are prepared strictly in the public interest to devote themselves to work upon such bodies. Financial considerations press heavily when public work on a large scale has to be undertaken, and in the administration of the Insurance Acts inadequate medical representation has, no doubt, had an effect more likely to be felt with regard to the treatment of tuberculosis than in anything else. The report of the Research Department of the Fabian Society on this matter is likely to produce useful discussion upon the topics treated in it, and if it is to some extent pessimistic in its conclusions, it is the temperate and considered judgment of persons competent to criticise, and is commendably free from the more marked prejudice and partisanship which characterise so much of the praise and blame which the Insurance Act has provoked. It is to the credit of the committee that they have avoided nebulous criticisms of the scheme as a whole, and have limited their task to the scrutiny of ways in which improvements can be effected in the working of the Act as it now exists.

◆

Eyes for the Blind.

THE KING accompanied by the QUEEN opened the new premises of the National Institute for the Blind in Great Portland-street, London, on Thursday of last week. A considerable crowd of blind people assembled in the streets without, while within the entrance hall of the institute was a blind guard of honour, and the welcoming address was read from Braille text without a moment's hesitation by Dr. A. W. G. RANGER, the blind chairman of the institute. The publicity given by the gracious action of the KING and QUEEN to the needs of what was formerly the British and Foreign Blind Association will have an outcome, we hope, in the shape of generous subscriptions from the public; our readers can bring before their patients and friends no worthier object of endowment than the National Institute for the Blind.

The institute was founded in 1868 by the late Dr. T. R. ARMITAGE, who was himself blind, and since that time it has printed and distributed a large number of books of all sorts in embossed or Braille type. These publications form veritable eyes for the blind, now that they are becoming numerous and that even a certain number of magazines are reproduced in this way. Few blind people are so fortunately placed that at all times they can obtain the help of the spoken word, but when this fails them their want of eyes can be made good to some extent by the use of Braille literature. But unfortunately the supply of books published in Braille type is at present very limited. The publications, by reason of their great bulk and the tedious and complicated processes of manufacture, can only be produced at a vast cost. "Pickwick" requires 14 volumes and costs £2 5s.; "David Copperfield" is in 10 volumes; "Uncle Tom's Cabin" in 8; "Kenilworth" in 7; "Sherlock Holmes" in 6; "Jane Eyre" in 5; "Midshipman Easy" in 4; and the cheapest of these famous works is 12s. Give the blind people books which they can be easily taught to read and they will do much to equip themselves for the battle of life, and enjoy themselves much more as their fellow men do. To the address of welcome the KING made a very sympathetic and indeed eloquent reply. He rejoiced with the managing committee of the institute that their work, which has brought solace and hope into many lives, should have met with such a response that the enlargement of its scope must follow, and while wishing them all success in their efforts to benefit a large number of their afflicted brethren he added the just remark: "It is a commonplace that men do not realise the value of that which they have never lost, but I am confident that your appeal for funds to extend and develop your undertaking will stir the imagination of many who unreflectingly enjoy the blessing of sight."

Following on the KING'S visit there has come the Mansion House Fund on behalf of the National Institute for the Blind, one of the main objects of which is the cheapening and amplifying of literature of every description for blind readers. The LORD MAYOR of London in the appeal states that there is an immediate need for £30,000 to complete and equip the buildings inaugurated by the KING and QUEEN, while it is hoped that a further sum of at least £100,000 will be secured to form an adequate maintenance fund which will go towards reducing the excessive cost of the bulky Braille volumes which form the library of the blind. The number of books which have been done into Braille is not yet large, and the choice of books for this treatment seems on perusal of the catalogue to be extraordinary, but it is a matter of fact that books of any sort are a blessing beyond all calculation to blind people. There is nothing whatever we can do for blind people that compares for one moment with the boon of placing within their hands that great medium for the interchange of thought and idea, the printed book. The catalogue of Braille books to be obtained from the National Institute for the Blind contains, in addition to primers for children, historical readers, elementary grammars and dictionaries, and certain recognised works on mathematics and science, a selection of fiction, poetry, drama, and a good number of religious and devotional books. Money is urgently required to add to the number of books printed in Braille type, and we add our voice to Mr. C. A. PEARSON'S who pleads this cause in THE LANCET this week. We beg our readers to use all their influence with the public in behalf of the blind.

The Election to the Council of the Royal College of Surgeons of England.

From the names of candidates for election to the Council of the Royal College of Surgeons of England next June, which we have been able so far to announce, it will be seen that the contest will be an interesting one, nor is it necessary to conclude that the list is yet full. The candidates so far in the field represent the medical school of the University of Manchester and the metropolitan medical schools of the Westminster Hospital, St. Bartholomew's Hospital, King's College Hospital, University College Hospital, Charing Cross Hospital, St. Thomas's Hospital, and St. George's Hospital. Every one of the candidates for one reason or another can expect the suffrage of a certain number of Fellows. Mr. Thorburn has in his favour, in addition to other unmistakable claims, the fact that the retirement of Mr. Richardson Cross leaves a seat vacant on the Council for a provincial member. There is no recognised percentage of these members, but the opinion that the provinces should be well represented is general. Mr. Cross's vacancy, however, is strongly challenged by Mr. J. B. Lawford, ophthalmic surgeon to St. Thomas's Hospital, standing as an ophthalmologist for the seat of a retiring ophthalmologist. Mr. McAdam Eccles will have to reckon with the feeling that St. Bartholomew's Hospital is already thoroughly well represented on the Council. Mr. W. G. Spencer, Mr. H. S. Pendlebury, Mr. F. F. Burghard, Mr. Raymond Johnson, and Mr. Stanley Boyd are all sure of receiving the support of many Fellows who know the high character of their professional and educational work. The Westminster Hospital has been without a representative on the Council for some time, and the regretted death of Mr. Clinton Dent has left St. George's Hospital without a voice. Only one member of the staff of King's College Hospital is now on the Council, and there is no representative of Charing Cross Hospital at all, but there are two representatives from University College Hospital. Mr. P. Macleod Yearsley is well known as the chairman of the National Bureau for the Promotion of the Welfare of the Deaf.

We may say at once that we do not regard it as particularly important that all the metropolitan medical schools should be represented on the Council of the College, for we do not picture the Council as occupied in maintaining the claims of one school against another. There was a time when a spirit of this kind may have prevailed, but time has removed what used to form a serious abuse. We believe that the Fellows, also, are far more willing to give their votes with a sense of public spirit than used to prevail even in comparatively modern times. It is generally desired by the Fellows to choose the best man among the candidates. Indeed, we have reason to believe that there are two classes of candidate for the Council of the College who at the present juncture would be supported by many Fellows, though a few years ago their chances of election to the Council would have been very slender. No candidate from these classes has as yet decided to put his name forward, but a Fellow of the College engaged in general practice or a Fellow of the College holding some big public health appointment would either of them prove a strong candidate. The deliberations of the Council might be much strengthened by the presence at their board of men who have particular opportunities for understanding the relations of the medical profession to the public in the matters of ordinary social or municipal life. There is no suggestion that the presence of a medical officer of health, of a medical officer for educational purposes, or of a Fellow in general practice upon the Council of the College, would be considered as any answer to the demand, which we have so often supported in these columns, for some measure of reform which would give the Members of the College a share in the government of their body. It would not be regarded as such an answer in any general way, but it would give the Members a sense that they were obtaining a closer measure of representation than before. Anyhow, the most ardent advocates for the alteration of the constitution of the College could see nothing but good as likely to arise from the introduction upon the Council of a Fellow engaged in general practice, or of one holding an appointment which brings him daily into personal touch with general practitioners. We believe also that the presence of such a Fellow on the Council would be welcomed by those in authority at the College, who would see the profit to be derived from the intimate information thus placed at their disposal. There are not many Fellows holding public health appointments, so that the appearance of a candidate for the Council from among them is not very probable; but the Fellows in general practice are now a large body, and we should be very pleased to see one offer himself for a seat on the governing body of his corporation. There still remains some time during which the claims of such a Fellow could be considered by the constituency, if the name was set down at once.

We had nearly said that time remained for the organisation of such a candidature, but organisation implies canvassing, and so far from suggesting that there should be any regular canvassing for seats upon the Council of the Royal College of Surgeons of England we feel strongly that any procedure of the kind is quite wrong. The governing body of the College ought to be selected very carefully, votes being given with due regard to the work and standing of the candidates, and personal claims being set aside as far as possible. That a man should vote for the candidate whom he believes in personally is not only natural but safe, for the candidate who obtains a successful measure of support of this kind must be a very strong one.

Votes given in response to knowledge of the good work done by a candidate are also rightly given, but such good work should be susceptible of public test and not merely vouched for by the candidate's friends. Lastly, votes given "to oblige" are vicious in elections to such bodies as the Council of the Royal College of Surgeons of England.

Annotations.

"Ne quid nimis."

INFANT MORTALITY AND THE WELFARE OF INFANCY.

The National Association for the Prevention of Infant Mortality and for the Welfare of Infancy is memorialising the General Medical Council with the hope that the authorities of medical education may raise the standard of their requirements as to the knowledge shown by students in the subject of infant hygiene. We view with considerable apprehension any suggestion to increase the scope of the examinations which the medical student is required to pass, inasmuch as it is allowed on all hands that the present curriculum is either overloaded or ill-arranged, as the time taken by the average candidate to obtain a degree or diploma is already over six years; but infant hygiene is a subject of the first importance to all practitioners, as well as one of overwhelming practical interest to the State, and from this point of view Sir Thomas Barlow, the chairman of the executive committee of the association, and his enthusiastic colleagues are justified in the action which they are taking. Moreover, it is demanded by the following resolution which was adopted at the English-speaking Conference on Infant Mortality held in London on August 5th, 1913:—

> That this conference requests the executive committee of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy to communicate with the General Medical Council and the degree and licence-conferring bodies, with a view to infant hygiene being given a more important place in the medical curriculum.

The executive committee of the association, in carrying out the above instruction, prepared a report upon the whole subject which shows that the various teaching centres are not unwilling to provide the requisite instruction. They have made inquiries of all the medical schools and children's hospitals where teaching is given throughout the United Kingdom, 51 in number, as to present or proposed facilities for the teaching of infant hygiene, and have received replies from 27 of these institutions. "In four cases," says the report, "viz., Manchester, Glasgow, Dublin, and Belfast—a course and certificate of special attendance and instruction are required. In six cases—viz., Guy's, Middlesex, St. Bartholomew's, Westminster, King's, and University Hospitals, London—there is a special department or course of instruction in this subject. At the Royal Free Hospital for Women, London, a weekly infant clinic is to be opened this year. At two special hospitals—Evelina and Great Ormond-street, London—as at the West London Hospital and other hospitals without medical schools, and in the comprehensive course held annually in London under the National Association for the Prevention of Infant Mortality, special instruction is given to graduates." In the remaining medical schools returning replies, instruction is considered to be given in the general curriculum of the hospital, sometimes by the physicians, sometimes by the surgeons, sometimes by the obstetricians and gynæcologists, and sometimes by lecturers on general hygiene. It is this assumption that instruction in infant hygiene is already being given that makes us feel particularly sympathetic towards a movement the wisdom of which must otherwise have been challenged on the simple ground that to ask a student, already overburdened, to carry another weight was injudicious. But it is a question whether the student is being asked so much to carry another weight as to have those which he is now carrying arranged in a manner more convenient to the porter. The recommendations of the executive committee are as follows:—

> That degree and licence-conferring bodies should require from each candidate for the final examination in medicine a certificate of having attended a course of clinical instruction on infant hygiene, to include lectures or demonstrations on the management of infants, and the prophylaxis and treatment of infantile diseases.
>
> Such a course should include instruction in the part played by the State in infant hygiene, with special reference to the duties and functions of the medical practitioner, the midwife, the hospital and local sanitary authorities, and the health visitors.
>
> The certificate required from candidates in midwifery for the final examination should include evidence that they have received instruction in antenatal pathology and hygiene, and in the management of infants during labour, the puerperium, and the period of lactation.

We agree with the executive committee in thinking that the machinery for such a course of instruction already exists in most of the leading centres of medical education, and that the rearrangements which could be effected by a little organisation would lead to most medical students receiving the instruction outlined in the recommendations.

TONE IN RELATION TO SHOCK.

The lecture delivered by Mr. Rendle Short,[1] in which he directs attention to the possibility of loss of muscular tone being concerned in the causation of shock, offers another instance of the increasing attention which is being directed to this matter of tonicity. There is little doubt that it constitutes a function of elemental and fundamental importance. Though the slight degree of resistance to full relaxation of muscular elements looks to be of trivial significance, the fact that prominent cerebral centres concern tonic activities, as represented for skeletal tissues by the cerebellum, and for visceral structures by the corpus striatum, indicates that wider functions are to be expected than this relatively simple mechanical action. Developmentally, tonus had a dominant representation in contractile elements. Before an integrating nervous mechanism enforced the value of concerted and graded movements, this power of automatic contraction was the simplest defensive mechanism possessed by the lowest organisms. Though this simple response has long since been superseded by skeletal organisation, its impress upon such organisation is increasingly recognised, as Sherrington's work shows. It is a quality, for example, which is capable of reinforcing skeletal activity to a remarkable degree, and this it does at no sacrifice to the delicacy of such activity. And just those influences, included by the psychologist under the term affective states—

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[1] The Lancet, March 14th, 1914, p. 731.

fear, anger, love—which are most elemental or preservative in character, are just those most capable of affecting tone. Developmentally, this is what one would expect, for they are intimately related to the safety of the individual, and tone had its origin in this relation. The brain centres, too, for controlling tone are of older origin than the later refinements. If skeletal structures appear to show little active evidence of tone, X ray observations upon the gastro-intestinal tract have emphasised the significance of tone as an entity and as a quality which is independent of peristalsis. And the later cardiac work has again shown the importance, not only of the quality of tone but also, similarly to the gastro-intestinal tract, its independence of other functions. In both these spheres tonicity is a quality to be considered as a definite, though at present ill understood, entity. In the nervous system the quality of tone naturally assumes a complexity which at present baffles definite assertion. The relation of the cortex to the cerebellum and central nuclei shows an intimate and coördinate arrangement which one would be led to expect from the study of the skeletal system alone. But the complex relation to the affective states is more difficult of solution, though the intimacy of relationship would be anticipated from developmental views. It is reasonable to suppose that the state of shock would find wide representation in changes of tone concerning visceral as well as skeletal and cerebral function, and investigation along such lines offers a promising field of inquiry.

COORDINATION OF THE TREATMENT OF MENTAL DEFECT IN LONDON.

THE London County Council has decided that the Mental Deficiency Act, 1913, shall be administered (if Parliament permits) by a committee which shall also be responsible for the control of the insane asylums, and application is being made to Parliament this session for power to deprive the Asylums Committee of its special powers and independence under the Lunacy Acts and to merge its duties in those of the new committee required to be set up under the Mental Deficiency Act. In the meantime the Committee for the Care of the Mentally Defective and the Asylums Committee will consist practically of the same persons, but the two branches of work will be kept distinct. The General Purposes Committee, reporting to the Council recently on the organisation of the service for the care of all kinds of mentally defective persons, intimated that when the temporary arrangements indicated above came to an end the Council would probably be invited to place the general supervision of the arrangements for the treatment of persons under the Mentally Defective and Lunacy Acts in the hands of one officer. This would only be the natural corollary of the Council's decision to combine the two services with a view to coördinating the treatment of all persons suffering from mental defect. At present there is no one person occupying the position of a chief professional or executive officer in the asylums service. There is a clerk or administrative officer, and each asylum is superintended by its own professional or executive head. For the interim period, pending a decision by the new committee when it was in possession of full powers, the professional and executive work, so far as it had reference to the Mental Deficiency Act, should be controlled, in the view of the General Purposes Committee, by the medical officer of health for the county, the arrangements for the asylums work being continued as at present for the time being. No doubt a large proportion of the persons to be dealt with under the Mental Deficiency Act would be ascertained by notification from the schools, and the new Act appeared to the Committee to require a continuous medical action from the first stages during childhood to the stage of certification for institutional treatment or guardianship. The officer upon whom it would devolve in the great majority of cases to select children for notification to the Committee for the Care of the Mentally Defective is the medical officer of health in his capacity of school medical officer, so that his appointment as suggested would be in accordance with the intention of the Act. The Council approved the report, but decided, after discussion, to call the new body the Asylums and Mental Deficiency Committee.

THE PASSING OF THE DOCTRINE OF AERIAL INFECTION.

IN the *Journal of the American Medical Association* of Feb. 7th Dr. C. V. Chapin has published a very cogent article showing how erroneous is the time-honoured view that the air is the chief vehicle for the conveyance of infectious disease. In the 1883 edition of Parkes's "Hygiene," the standard book of the day, malaria and yellow fever were considered typically air-borne disease. Typhoid fever, cholera, dysentery, and diarrhœal diseases were said to be largely air-borne, and sewer air was alleged to be an important factor in their production. Typhus fever and plague were thought to be spread by a vitiated atmosphere. It was assumed that bacteria were freely given off from fæces, urine, and other discharges, and were exhaled in the breath. However, in the late "seventies" of the last century Nageli and Buchner showed that bacteria are not given off from moist surfaces or liquids in a state of rest, and Tyndall demonstrated that expired air is sterile. The discovery of the tubercle bacillus by Koch led to the view that the usual mode of infection was transmission on particles of floating dust. The investigations of Cornet, who showed in 1885 the presence of tubercle bacilli in dust, confirmed this view. In 1897 Flugge showed that bacteria could be carried in the fine droplets of saliva thrown out from the mouth during loud talking or coughing. It had previously been found that bacteria-holding droplets could be thrown into the air by agitation of sewage. But unwarranted inferences were drawn. Because Cornet's guinea-pigs were infected by clouds of tuberculous dust and Flugge's guinea-pigs when held a short distance in front of a coughing consumptive, it did not follow that dust or droplets are under natural conditions the chief mode of infection. The question of dosage in causing disease is all-important, but has been much neglected in bacteriological work on aerial infection. One observer found bacteria only four times in 200 litre samples of air from the soil-pipes of Boston sewage, and then only when splashing of sewage occurred at the place and moment of examination. Later experiments were made to determine the extent to which general air infection in an apartment is caused by droplets. In 140 litres of air taken at various points from a room immediately after from 10 to 50 minutes' loud speaking by a person whose mouth was infected with B. prodigiosus, the organism was found only seven times. In 74 litres examined for streptococcus salivarius none were found. More recently the air of New York schools was examined for the acid-forming streptococci which are the most abundant organisms in the human mouth. In 30,000 colonies isolated from 750 plates only 10 mouth streptococci were found. On the other hand, he found salivary bacteria in the dust of schoolrooms in enormous numbers. To turn to the clinical aspect of the question. A little after the middle of the last century, under the great authority of Murchison, it was believed that the chief cause of typhoid fever was effluvia from decomposing animal matter. When the Prince of Wales in 1871 contracted typhoid fever at Sandringham the escape of sewer gas into his apartment was considered by everyone a sufficient explanation. Now conveyance by infected water or food is universally held, and the "carrier" has supplied the missing link in previously inexplicable cases. Cholera, dysentery, and diarrhœa were considered to be largely spread by air polluted with the discharges of patients. The discovery and study of the causal microbes has shown that it is by water, food, contact, flies, and carriers that these diseases are spread. Pasteur showed the importance of particles floating in the air as a cause of putrefaction. In applying his discoveries Lister tried to prevent infection of wounds from the air by means of the carbolic spray until he found the unimportance of this source. Pyogenic bacteria can always be found in the air of operating theatres, but they rarely cause wound infection, probably because of their small number and the diminution of virulence by drying and exposure to light. A wider infection of the atmosphere has been claimed for small-pox than for any other disease, but Dr. A. Collie in a recent book on "Small-pox and its Diffusion" has shown that the alleged aerial conveyance around hospitals is probably due to personal contact. The belief that scarlet fever, diphtheria, measles, and whooping-cough are air-borne is being abandoned by many observers.

NEPHROPEXY FOR MOVABLE KIDNEY.

THE discussion at the Surgical Section of the Royal Society of Medicine on the surgical treatment of movable kidney[1] was of considerable practical importance, if only for eliciting the divergence of opinion as to the amount of success which is likely to follow such procedure. The condition itself is one in which the limits of health and disease are very indefinitely marked, as it is undoubted that in many apparently healthy persons a much greater range of mobility is possessed by the kidney than is usually recognised as normal, while the disturbances which are associated with some instances of such increased mobility are not easily explicable as direct consequences of the condition. Again, the range of movement is not by any means proportional to the severity of the symptoms. These are often, or indeed usually, of a neurasthenic nature, and may not be associated by the patient with the kidney or its neighbourhood until attention is called to the abnormality as a result of medical examination. On the other hand, there is another group of cases which present features more definitely referable to traction in the renal region, the pain and discomfort being relieved by rest in bed and reproduced by movement and assumption of the erect posture. It would seem, then, that on scientific grounds operation is indicated in the latter group and to be avoided as far as possible in the former, and experience seems to bear out this view. In neurasthenic cases the question of nephropexy may have to be faced as a last resource, if the patient has become imbued with the fixed idea that the movable kidney is the source of trouble and that fixation is the only means of relief, but in such persons a large percentage of failures must be expected. The actual mortality of the operation of nephropexy is very small, perhaps 1 per cent., and it presents no particular difficulties. It is probably well to aim at a high point of fixation, and attachment to the twelfth rib gives good results. There is, however, little doubt that the operation is now less in favour than it was some years back, and that the general direction of opinion is towards restricting the number of cases so treated and relying rather on general measures of hygene and on carefully adjusted abdominal support.

TROPICAL SANITATION AND HYGIENE.

THE syllabus of the new course in tropical medicine and hygiene at the London School of Tropical Medicine has now reached us. Two courses, commencing on May 1st and Oct. 1st, and extending over a period of eight weeks each, will be given annually. There will be ten lectures and demonstrations on medical entomology by Colonel A. W. Alcock, I.M.S., these including the common tropical insects that carry disease. Three lectures and two demonstrations will be given on port hygiene by Dr. H. Williams, eight lectures and demonstrations on bacteriology by Professor R. Tanner Hewlett, and a practical laboratory course on bacteriology by Dr. B. H. Wedd. Professor W. J. Simpson will deal with hygiene in the tropics and public health subjects—town planning, building laws, insanitary areas and houses, nuisances and infectious diseases being included under this heading. Dr. C. M. Wenyon will give four lectures and demonstrations upon protozoology, and Dr. R. T. Leiper the same on helminthology. Elementary surveying and sanitary engineering will be under the charge of Mr. S. F. Corby, while finally, Dr. Arnold Chaplin will instruct the students on the care of the sick on board ship in the tropics. It is intended to make the course as practical as possible, and to illustrate the application of the methods taught in the investigation of disease by material obtained from the hospital adjoining the school. The course will thus be seen to be a very comprehensive one, and one of real value, as it will teach the young men of the present day the application of the careful research work carried out in the last 15 years by so many of the pioneers of tropical medicine. A great advance has taken place in recent years in the health of all the tropics, and especially in the more deadly parts such as the West Coast of Africa, and it behoves the present generation to keep this advance up and to do still better. Many of the villages and stations in the tropics at the present day are in the sanitary condition of English villages 50 to 100 years ago, and the death-rate is as high as would be expected.

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[1] Proceedings of the Royal Society of Medicine, 1914, vol. vii., No. 4, Surgical Section, p. 137. THE LANCET, Jan. 24th, 1914, p. 243.

he new course on sanitary science in the tropics enerally should be of great value, and further articulars may be had from the secretary, eamen's Hospital, Greenwich, London, S.E.

TUBERCULOSIS IN THE NECROPSIES OF CHILDREN.

THE Local Government Board has now issued he special reports on this subject[1] to which allusion as made in the annual report of the medical fficer of the Board for 1912–13, which we recently eviewed.[2] The first, by Dr. A. Eastwood and Dr. . Griffith, relates to 150 post-mortem examinations f children dying in various London hospitals (not pecially devoted to the care of tuberculous atients), while the second, by Dr. A. S. Griffith, eals with somewhat similar observations at Cam-ridge on a consecutive series of 45 children. These eports illustrate the great extent to which tuber-ulosis is a cause of death in town children, and e frequency with which this disease may be esent in children who die from other causes. aking the first of these reports, it appears that of e 150 post-mortem cases in children between the ges of 2 and 10 death was due to tuberculosis in , and evidence of tuberculosis was found in others. This series of 33 comprised 16 showing sions of tuberculosis in which the bacilli were pparently dead, and 5 in which, though there ere no tuberculous lesions in any part of e body, tubercle bacilli were obtained, by inocu-tion and culture, from the cervical, bronchial, mesenteric glands. Taking the 94 cases in hich evidence of tuberculosis was found, the atomical appearances indicated that in 22 the ands draining the alimentary tract had been imarily invaded, in 52 the respiratory tract emed to have been the seat of invasion, and in the anatomical evidence as to the portal of try was inconclusive. As all three investigators ought to this work special knowledge acquired their researches for the Royal Commission on uman and Animal Tuberculosis, their investiga-ns into the type of bacilli met with in these ses has exceptional value. In the 94 cases above ferred to the bovine type predominated in those which on anatomical grounds infection was nsidered to have taken place by the alimentary act; on the other hand, bacilli of the bovine pe were found in 1 only out of the 52 cases parently due to respiratory infection. The cteriological distinctions between bovine and man types were as a rule quite definite, ough in one instance a strain was found which uld not be classified as either "human" or ovine" on the accepted standards. In the second port, which gives broadly similar results, Dr. S. Griffith lays stress upon the consideration at absence of bacilli of the bovine type from ses in which the primary lesions were thoracic obably signifies that when the lungs of children affected by tuberculosis of "human" origin infection has been acquired through the spiratory passages and not through entry by y of the alimentary tract. While there is idence that tubercle bacilli, which reach the mentary canal as a result of swallowing ected dust or other material, may pass rough the mucous membrane of the alimentary tract without leaving trace of their passage, it is unlikely that an anatomically primary thoracic tuberculosis would be caused, for if this were common anatomically primary tuberculosis of the lungs should be frequently met with as a result of swallowing bovine bacilli. Many other matters of interest are dealt with in these reports, and it would be of obvious value if similar researches could be extended—for example, as to the differences in the relative prevalence of human and bovine infection in different localities.

THE VALUE OF THE SPLEEN RATE IN MALARIOUS DISTRICTS.

IT is obviously of the first importance that sanitary administrators and other responsible officials in malarious regions should be able to appraise the amount and intensity of the infection in any district, and also that they should be able to watch and make definite record of the changes or fluctuations which may occur in the incidence of the disease after the adoption of antimalarial measures of one or another kind. Various methods have been put forward from time to time for gauging the extent to which malaria may exist in a locality, but most of them have been open to objection of some sort, either, for example, on the score of difficulty of application or because of the excessive amount of time or trouble required to carry them out. The test which is now most generally accepted, and which is at present largely used by experts for the purpose, is that known as the "spleen rate"—that is, the proportion of all children in the place showing evidence of any enlargement of the spleen. It is, however, admitted that diseases other than malaria may give rise to enlarged spleens, kala-azar for instance; but it is believed that with care it is possible in most localities to guard against mistakes from this source. The simple spleen rate, though fairly free from observational error, is not altogether exempt from it, and this has been found to arise more particularly in connexion with the difficulty of deciding whether a spleen which is "just palpable" under the ribs is, or is not, a pathological enlargement, especially where young children are concerned. When reporting upon his inquiry, made last year, into malaria in Cyprus, Sir Ronald Ross drew attention to this difficulty and expressed his intention, with the view of removing doubt, of making further study of the spleen in a number of children in some non-malarious country like England. With the assistance of two expert officers of the Indian Medical Service, Major S. R. Christophers and Major E. L. Perry, Sir Ronald Ross has now carried out his intention and has made detailed and careful examination of the spleens of nearly 500 children attending five large schools in the north of London. Many of the cases were examined by all three observers, and seldom by less than two of them, and the results have been published in the *Indian Journal of Medical Research* (Vol. I., No. 3). Various methods of palpation were [illegible]

[illegible] 5 cases could the spleen be said to be palpable, and this gives a spleen rate of only 1 per cent.; in 5 other instances doubt arose as to whether the spleen could be felt or not. Including these doubtful cases, the spleen rate is only 2 per cent., whereas in some 20 or more [illegible] by Sir Ronald Ross in [illegible]

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[1] Reports [illegible] No. 83 London.
man [illegible] Stationery Office.
blin; [illegible] ice 2s. 3d.

became reddened, and in January one of them broke down, giving rise to a fistula discharging sanious pus. One of the remaining tumours, the largest of which had attained the size of a walnut, was punctured, and the thick pus which was thus secured was utilised for cultures. Treatment with potassium iodide by the mouth was successful in leading to a rapid absorption of the tumours, leaving no trace apart from a scar in the site of the fistula, which had dried up as the swellings disappeared. The second case was that of a young soldier who developed two swellings similar in character to those observed in the other patient. One of these was incised, and the dirty yellow pus which was found was used for cultivation. Various media were tried, but the results were negative except in bouillon with or without gelatin. Even on these media growth was slow; the colonies, which were rounded, enlarged slowly, and changed from a rose tint to a deeper and deeper shade of brown. Examination of these colonies showed that they consisted of mycelial threads, straight or slightly curved and divided by transverse lines into segments which sometimes became completely separated from the main mass and themselves formed the origin of new masses. For these and other reasons the writers regard the fungus as quite distinct from that of sporotrichosis; the name which they propose for it is Chalara pyogenes, and for the disease which it appears to cause in man the term "chalarosis" is suggested. It should be added that experimental inoculation of the cultures into the subcutaneous tissues of animals provoked the formation of lesions very similar to those observed in the human subject.

Dr. Paul Ferreyrolles will give a demonstration before the Fellows of the Royal Society of Medicine on Wednesday, April 8th, at 5 P.M., on Colloidal Metals by the kinematograph, and of his experimental work showing the production of immunity by means of the hypodermic use of colloidal metals. Mr. Henry Crookes will at the same meeting give a demonstration by the ultra-microscope of various colloidal metals in solution. Very little is known in this country of the work that is being done in this connexion in France, and these demonstrations should be of great interest to the medical profession.

THE King has granted to Dr. Morden Carthew, first assistant medical officer to the local sanitary department at Bangkok, licence and authority to wear the Insignia of the Third Class of the Order of the Crown of Siam, which has been conferred upon him by His Majesty the King of Siam.

Dr. Carl H. Browning, director of the Laboratory of Clinical Pathology at the Western Infirmary, Glasgow, has been elected director of the Institute of Pathology at the Middlesex Hospital, recently erected through the munificence of Sir John Bland-Sutton.

Mr. Raymond Johnson, surgeon to University College Hospital, London, has signified his intention of being a candidate at the forthcoming election to the Council of the Royal College of Surgeons of England.

Dr. Barty King has been elected a Corresponding Member of the International Congress of the Antituberculosis Association, Berlin.

SURGEON-GENERAL GORGAS AND THE PANAMA CANAL.

THE COMPLIMENTARY DINNER TO SURGEON-GENERAL GORGAS.

A DINNER was given on Monday evening last at the Savoy Hotel by the medical profession to Surgeon-General W. C. Gorgas, the principal sanitary officer of the Panama Canal Commission, who has recently been appointed Surgeon-General-in-Chief to the United States Army. Sir Thomas Barlow, President of the Royal College of Physicians of London, presided over a distinguished company, which included:—

The Archbishop of Canterbury, the Lord Chancellor, the American Ambassador, Dr. S. T. Darling (chief of the Research Laboratory of the Panama Canal Commission), Major R. E. Noble (General Inspector of the Sanitary Department of the Panama Canal Commission), Viscount Bryce, Lord Moulton of Bank, Sir Rickman J. Godlee (President of the Royal College of Surgeons of England), Sir Francis Champneys (President of the Royal S[illegible] rrier (President of the Medical Socie[illegible] the British Medical Association), Sir [illegible] o Society of Tropical Medicine and Hygiene), Sir William Osler, Surgeon General A. W. May (Director-Ger[illegible] Surgeon-General Sir L. Gubbins ([illegible] Service), Sir Ronald Ross [illegible] Griffith (the American [illegible] fessor Howard Marsh, S[illegible] Ramsey Macdonald, M[illegible] Cheyne, Sir John Twee[illegible] fessor Simpson, Sir J. Rose Bradford, Sir Frederic Eve, Fleet-Surgeon P. W. Bassett-Smith, Sir A. A. Bowlby, Sir Lionel Spencer, I.M.S., Sir J. Goodhart, Sir Alfred Keogh, Sir Arbuthnot Lane, Sir J. Porter, Sir Shirley Murphy, Sir Anderson Critchett, Dr. Newsholme (Principal Medical Officer to the Local Government Board), Sir G. Newman, Sir J. Barr, Surgeon-General W. G. Macpherson, Mr. G. H. Makins, Dr. S. Monckton Copeman, Mr. James Cantlie, Dr. John Eyre, Dr. A. J. Carter, Surgeon-Lieutenant-Colonel P. J. Freyer, Dr. Arthur Latham, Sir StClair Thomson, Major S. L. Cummins, R.A.M.C., Dr. T. B. Hyslop, Dr. H. A. Latimer, Mr. P. P. Laidlaw, Dr. H. H. Dale, Dr. Guthrie Caley, Dr. R. A. Gibbons, Mr. J. B. Lawford, Dr. H. A. Alford Nicholls, Dr. Harvey Hilliard, Mr. J. H. Dauber, Dr. F. Parkes Weber, Dr. T. M. Legge, Dr. E. F. Bashford, Dr. David Thomson, Dr. J. G. Thomson, Dr. C. F. Harford, Mr. Herbert S. Pendlebury, Dr. Seymour J. Sharkey, Dr. W. Hale White, Colonel W. G. King, Lieutenant-Colonel O. L. Robinson, R.A.M.C., Major J. A. Masters, Mr. E. Alan Masters, Professor Wm. Russell, Major S. P. James, I.M.S., Dr. Edwin Rayner, Dr. G. C. Low, Colonel B. M. Skinner, A.M.S., Dr. A. K. Chalmers, Dr. Samuel West, Dr. William Hunter, Dr. P. S. Abraham, Dr. A. J. Hall, Dr. H. F. Heath, Dr. W. H. Hamer, Dr. H. H. Tooth, Dr. H. Scurfield, Dr. A. W. C. Cameron, [illegible] Havilland Hall, Colonel A. Alcock, [illegible] Hayward Pinch, I.M.S., Dr. Daws[illegible] Mr. Stanley Boyd, Dr. S. G. Mo[illegible] y E. M. Wood, Dr. E. Farquhar Buzzard, Dr. W. S. A. Griffith, Dr. S. Squire Sprigge, Dr. E. S. Pasmore, Dr. Hector Mackenzie, Mr. H. G. Plimmer, Dr. Purves Stewart, Dr. W. T. Prout, Dr. T. D. Acland, Dr. G. Newton Pitt, Mr. C. B. Lockwood, Dr. Archibald Garrod, Mr. Arthur E. Barker, Mr. L. Reyersbach (Ex-President, Transvaal Chamber of Mines), Dr. F. J. Smith, Mr. T. Jenner Verrall, Mr. Deane Butcher, Mr. C. J. S. Thompson, Dr. G. William Hill, Mr. J. Y. W. MacAlister, Dr. J. Mitchell Bruce, Mr. C. A. Ballance, Mr. James Berry, Dr. H. Lyon Smith, Dr. D. E. Anderson, Dr. H. Andrew Foy, Dr. Louis W. Sambon, Mr. Percy Dunn, and Mr. Robert Donald.

The Royal toasts having been briefly proposed by the Chairman, Lord BRYCE proposed the toast of "The President of the United States," and in the course of his speech alluded to the work of the International Health Commission of the United States, whose director, Mr. Wickliffe Rose, had recently been in personal conference with the British Colonial Office, with the result that the two great Anglo-Saxon races will coöperate to fight disease, ankylostomiasis being the immediate objective of the campaign.

The AMERICAN AMBASSADOR, in responding, said that the President of the United States was a man of scientific training, who had brought his knowledge of history and theoretical government to the service of his country with most fortunate results, and he instanced the appointment of Surgeon-General Gorgas to the directorship of the Medical Department of the United States Army as a proof of scientific methods of administration.

The CHAIRMAN briefly stated that the idea of a dinner of welcome to Surgeon-General Gorgas during his visit to England had originated with Sir William Osler, and had been at once supported by Sir Havelock Charles, President of the Society of Tropical Medicine, by Professor W. J. R. Simpson, for the London School of Tropical Medicine, and by the Royal Society of Medicine, the British Medical Association, and the Royal Colleges, and that with the view of making the occasion representative the presence had been desired of certain great men of the realm in Church and State.

Sir HAVELOCK CHARLES than proposed the health of Surgeon-General Gorgas in forcible and eloquent terms. He pointed out that the distinguished guest of the company had proved that tropical scourges could be controlled, and said that Surgeon-General Gorgas, having been given a free hand, and having made full use of the knowledge placed at his disposal by the discoveries of Manson and Ross, had controlled them in the Isthmus. Thus he had enabled his country to succeed where the brilliant French engineers had failed, for he had conquered the pestilence which had rendered the work of the French abortive.

Surgeon-General GORGAS responded with great grace and modesty. He began by alluding to the fact that 45,000 of the 60,000 labourers on the Canal were coloured subjects of the British Empire, hailing from the West India Islands. Excellent subjects of the British Crown, and members of the Church of England, they were inclined to claim the Canal, lock, stock, and barrel, and personally annexed most of the Bibles which had been presented for the use of the settlement. Their faith only faltered temporarily in the Empire to which they belonged, and that was when, without due notice, their form of payment had been changed to money orders representing a vast weekly sum, which the unprepared officials at the Barbados post-office could not cash on the spot. Confidence, said Surgeon-General Gorgas, was later restored. Referring to the progress of the Canal, he said that when he left in October the smaller boats employed in the works were passing through; it was believed that some commercial traffic would take place in July, and that the Canal would be formally opened next January. He concluded a speech, which was received throughout with signs of the obvious pleasure of the audience, by acknowledging the kindness and courtesy extended to himself and his colleagues, Major Noble and Dr. Darling, during their visit, closing with a simple and sympathetic [illegible] called up in the breast of [illegible] y the sight of Westminster [illegible] and by walking in the streets where Dickens's and Thackeray's heroes had walked.

Sir THOMAS BARLOW briefly responded to the toast of "The Chairman," which was given by Sir WILLIAM OSLER.

SANITARY WORK AT PANAMA.

Earlier in the day Surgeon-General Gorgas gave an address before a crowded audience in the Robert Barnes Hall of the Royal Society of Medicine on the measures adopted in combating malaria and yellow fever in the Isthmus of Panama. The chair was occupied by Sir FRANCIS CHAMPNEYS, the President of the society.

The PRESIDENT, in briefly introducing the lecturer, extended to him, in the name of the society, a warm welcome for two reasons: firstly, because his work was an object lesson to the world and especially to our own country, which was so slow to encourage science. It would enable us to understand how an intimate acquaintance with the life-history of a gnat could change the map of the world. And the second count in the welcome was the fact that in a line of research in which our own countrymen had laboured so successfully this grand piece of work had been accomplished by one of our American cousins.

Surgeon-General GORGAS first dealt with the geography of the zone under consideration, explaining that the Canal was 50 miles long and ran almost due north and south.[1] The United States leased a strip of land on each side of the Canal, whose area, therefore, was about 500 square miles, two-thirds of which was rough, broken, and mountainous, the remaining one-third low and swampy. The bad health reputation of the Isthmus was chiefly due to the fact that during the last 400 years a large number of unacclimatised persons had always been present there. The climate was not very disagreeable, for while it was warm all the year round, its temperature was not so high as that of many United States localities during the summer, and its rainfall was also exceeded in other places. The perpetual moist warmth constituted ideal breeding conditions for mosquitoes. Before going to Panama he had done four years' sanitary work at Havana. It was known that the introduction of large numbers of workers into Panama would mean the outbreak of yellow fever, for there had been cases of it in 1904, in which year the Americans started their work, the French having commenced in 1880. But for the advances in tropical medicine in the meantime, probably the later army of workers would have been as much harassed by disease as were the French; and it was a matter of pride to him that the discoveries connected with the insect transmission of malaria and yellow fever were made by men of the Anglo-Saxon race. Health officers were appointed for Panama and Colon. Panama City was divided into six inspection districts, and an inspector was appointed to the charge of each. An ordinance required that every unacclimatised person should each day report himself to the sanitary inspector. It was found better and more economical to employ additional men to hunt up the people than to have an elaborate scheme of fines and punishments for failure to report. This was not very difficult, because the native was immune to yellow fever; the victim was the recently arrived white man. These persons the inspector soon got to know, and could keep in touch with them. If a non-immune person was found to be sick, he was reported to the health officer; and if the case proved to be yellow fever, he was given the option of either going to hospital or having home treatment. If the latter, a skilled member of the sanitary force screened the room or rooms selected, and the only entrance and exit was guarded by an officer to see that no unauthorised person entered. No attention was paid to the patient's clothing, because it was found that clothing could not infect the mosquito, and it would be safe to release the patient from quarantine on the third day except for the possibility of some mosquitoes having got into the screened room and become infected. Nor was it necessary, in the event of death from yellow fever, to give special attention to the cadaver, because it could not infect the mosquito. But the building, when the patient left, or died there, was carefully pasted up and fumigated. The mosquitoes were not dangerous until the tenth or twelfth day after biting. The stegomyia was a poor flier, and it spent about a week in the larval stage, during which it had to live in water. Thus it was necessary for each inspector to get round his district once a week. He had to take with him a sufficient force to attend to sanitary nuisances, such as water puddles, or tin cans, or old bottles wherein mosquitoes might breed. Ordinances were passed making it a sanitary nuisance for persons to have mosquito larvæ on their premises, and they carried with them the power for health officers to inflict punishment or fines for non-observance; but the offender was always released from the punishment when the nuisance was abated. Gentleness and persuasion were a great force with Latin-American populations, whereas police-court rigour, as we know it here, would probably result in much awkwardness in attempting to circumvent the officers. The country districts were divided into 25 sanitary districts, and they comprised 30 villages, varying in population from 8000 or 10,000 to a few hundreds. Probably the limit flight of the anopheles was 200 yards. The principal means of getting rid of the mosquitoes was by drainage; indeed, if officers resorted to other measures, that was looked upon as a confession of failure with the chief means, drainage. The principal form used was that common in farming, known as the surface drain. But owing to the rapid growth of grass in this region the ditches had to be cleared out every two or three weeks. A permanent drain [illegible] subsoil tiles. Sunlight and wind proved destructive of mosquito life, hence the insects sought the grass and the brushwood for shelter. Inspectors had to keep this growth cut short for a distance of 200 yards round all villages and suburban residences. He was speaking largely of the antimalarial crusade, but the remarks applied also to yellow fever. It must be remembered in the case of the stegomyia that it was the female alone which bites, and generally at night; it then sought a dark corner in which to rest while digesting its meal of blood. For killing infected mosquitoes a test-tube was used, into the bottom of which was placed material moistened with chloroform; the insect readily fell stupefied into the tube, and was detained and sent uncrushed to be counted and classified at the central office. This was done daily. If a man caught only some of the mosquitoes each day, by

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[1] THE LANCET, June 3rd, 1905, p. 1530; June 6th, 1908, p. 1646.

Hospital, now called the Hospital for Women and Children, for the past 13 years. She gave figures of the number of patients treated at the hospital in each year since 1893, and these showed a decrease from 736 patients in that year to 340 in 1912. This fall, she said, was partly due to a change in general conditions and partly to the fact that in the earlier years women came to the hospital from garrison towns. The figures were also very much influenced by the fact that in the earlier years patients were of a class who left the hospital directly they were free from symptoms; at the present time the patients remain in the hospital for longer periods and finish their treatment. During the present year the number of patients was much larger than had been the case in corresponding periods for a number of years. Miss Garrett thought this was probably the result of the greater publicity of the subject during the last few months. The name of the hospital was changed some years ago, and this had had good results in getting rid of prejudice against the hospital; in particular, cases now came to the hospital at an earlier stage of the disease. Most of the patients treated at the hospital were very young girls, the average age being 20, and there were very few professional prostitutes.

At the twenty-fourth meeting evidence was given by Dr. Amand Routh, consulting physician to the Charing Cross Hospital and to the Samaritan Free Hospital for Women and Children.

Dr. Routh said that from figures which he had obtained he had formed the conclusion that the infant mortality before the period of full birth was as high as in the first year of life, so that the total mortality during the intra-uterine life and the first year after birth was about one-fourth of the possible children. He thought that syphilis was the main cause of stillbirths, and also probably of a large proportion of early intra-uterine deaths, and he suggested various measures which might be adopted with the object of obtaining reliable statistics, of assisting diagnosis, and of facilitating the application of treatment. These measures included the extension of the compulsory registration of stillbirths to the whole country; arrangements under which poor women might receive medical supervision during pregnancy; the provision of the pre-maternity wards in every locality; the formation and endowment of research laboratories in all general and lying-in hospitals; and arrangements for financial assistance to poor pregnant women during the later months of pregnancy. Dr. Routh said he was not in favour of the compulsory notification of venereal diseases, for unless anonymity could be secured and be believed in many men and most women would not consult a doctor, but would either remain untreated or consult venereal quacks who would greatly multiply. He felt that voluntary notification would be entirely unreliable statistically. He advocated the establishment of venereal clinics in all districts, but thought it was important that they should not be known by any name of the nature of "venereal."

Birmingham Children's Hospital. — The annual meeting of this institution was held on Feb. 23rd. The report of the board of management showed that the number of patients treated during 1913 was: in-patients 914, compared with 845 in 1912; out-patients 13,897, against 12,295; and casualties 628, against 686. The average length of stay in hospital was 22·18 days, and the average cost per week for each inmate (staff and patients) was 4*s.* 7*d.*, as against 4*s.* 5*d.* in 1912. The new building is well in hand, and the opening ceremony is expected to take place in the summer of 1915. £9000 are still required to open the new hospital free of debt. During the year the committee has been impressed with the necessity of removing the out-patient department from Steelhouse-lane to the new site, as the present accommodation is very inadequate for the present work. The cost of a new out-patient department would be about £10,000, but against this there would be very considerable economies in annual expenditure. The accounts of ordinary income and expenditure show a deficiency of £235, as compared with £86 in the previous year, owing partly to an increase in expenditure and partly to a falling off in special items of revenue. During the year there were 151 deaths, giving a death-rate of 16·5 per cent., as compared with 15 per cent. the previous year.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Radnorshire County Council.—Medical inspection is in very primitive condition in Radnorshire. Dr. L. W. P reports that as he is not supplied with adequate assista about half his time is taken up with clerical work. Becau of this second visits to schools have been impossible, and reinspection or following-up work has been systematica carried out nor any sanitary survey of the schools ma Goitre prevails largely, but whereas in 1911 the percenta of cases among children inspected was 3·4, in 1912 it v 2·1 only. The total children inspected were 1314, a belonged to four age groups, those about 5, 7, 10, and years old respectively.

Salop County Council.—Dr. James Wheatley lays empha on the necessity for bringing the ordinary child up to highest pitch of physical fitness possible by remov unphysiological modes of living. The preventive w should consist of improvement of school premises, provis of proper playgrounds, efficient physical exercises, hygie instruction of children, and coöperation with the sanit authority to prevent damage to health before school a The school medical officer's report is sent to the h teachers of each school and has in consequence been v widely read. This useful practice might well be imita elsewhere. The total number of children examined in year was 13,227, of whom 3750 were reinspections and were "specials." With reference to defective vision att tion is called to the defective type of school Bibles adoption of the British Association standards for the t of all new books is recommended and the prevention needlework or any work involving eye-strain under ei years.

East Sussex County Council.—Mr. A. G. R. Foulerto report includes, and gives special prominence to, spe studies by Dr. Arthur Beeley on pulmonary tubercul among school children in the county, and by Mr. George Fi on the local distribution of cases of tonsils and adenoi The total children examined since medical inspection beg have been taken as the basis of the tuberculosis repo These children are 47,168 in number, and among these cases of pulmonary tuberculosis have been found. Owing some cases being second examinations these figures can be used to give a percentage, but in 24,128 which available the percentage is 0·04. The phthisis dea rate per 1000 in 1910 for all ages in England Wales was 1·08, in East Sussex 0·8. The low centage of school children affected is ascribed par to the absence of large towns and partly to onl small proportion of the population being engaged in healthy trades. But the chief factor is probably the met of diagnosis. Mere harshness of breath sounds and longation of expiration have not been accepted as evidenc tuberculosis by themselves, nor have catarrhal signs. M cases of tonsils and adenoids occur in rural areas than urban. The distinctly urban districts of Seaford, Newhav and Portslade-by-Sea give percentages of occurrence cases of enlarged tonsils and adenoids 3·6, 2·8, and 2 the urban districts which have predominantly "rur characteristics of Haywards Heath and Burgess Hill g percentages of 3·72 and 3·6 respectively. The sch medical officer suggests dampness as a cause; the probabi would seem to be that dirty and carious teeth are commo in the relatively backward country districts and that enlar adenoids and tonsils depend frequently upon chro infection from the mouth.

Devonshire County Council.—Among 17,967 children e mined only 0 05 per cent. were found to have tuberculo Lantern lectures on tuberculosis are given in different distri by the medical officers. No reappearance of cerebro-spi meningitis is recorded, and this is ascribed to the season proving unfavourable to the transmission of the vi The various defects noted are given in tables classi according to sex, district, and age, with a paragraph explanatory comment beneath. The method is simple effective and makes the report easy of reference. curative treatment is carried out except in a few cases individual effort. Less than 40 per cent. of defects need medy have been treated. The backward condition of following-up" and hygienic work may be inferred when we ote that Brixham is marked out for distinction as having omething over 100 children who now clean their teeth under the stimulus of a tooth-brush club) as against no hildren formerly.

Durham County Council.—The report of Dr. Eustace Hill ncorporates individual reports by three of the assistant nedical officers and by the school nurse, who also acts as 'health visitor." In this the social conditions aspect of nedical inspection is brought prominently forward. A ounty ophthalmologist, Dr. A. T Paterson, is employed in reating disease of the eyes and defective vision.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose at the middle of this year is estimated is, 8598 births and 5286 deaths were he week ended Saturday, March 21st. The annual rate of mortality in these towns, which had been 15 1, 15 8, and 15 4 per 1000 in the three preceding weeks, further declined to 15·2 per 1000 in the week under notice During the 11 weeks of the current quarter the mean annual death-rate in these towns averaged 16 4, against 16 1 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5 3 in East Ham, 6 6 in Edmonton, 6 7 in Oxford, 6 9 in Swindon,

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rising from 397 to 441 in the four preceding weeks. Of these 444 deaths, 155 resulted from whooping-cough, 107 from measles, 73 from infantile diarrhœal diseases, 51 from diphtheria, 37 from scarlet fever, and 21 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1 2 and 1 3 per 1000 in the two preceding weeks. The deaths attributed to whooping cough, which had steadily increased from 110 to 143 in the four preceding weeks, further rose to 155 last week, and caused the highest annual death-rates of 1·3 in Gateshead and in Swansea, 1·4 in Plymouth and in South Shields, 1·7 in Exeter, 1 8 in Darlington, 2 0 in Dudley, 2 1 in Sheffield, and 2 7 in Great Yarmouth. The deaths referred to measles, which had been 101, 118, and 113 in the three preceding weeks, further declined to 107 last week; the highest death rates from this disease were 1·1 in Bradford, in Sheffield, and in Cardiff, 1·8 in Nottingham and in Stockton on Tees, 1·9 in Burnley and in Barnsley, 2 0 in Dudley, and 3 0 in Swansea The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 83, 59, and 74 in the three preceding weeks, were 73 last week, of this number 17 were registered in London, 6 in Liverpool, 6 in Manchester, 3 in Burnley, and 3 in Leeds. The deaths attributed to diphtheria, which had been 72, 60, and 67 in the three preceding weeks, fell to 51 last week, and included 16 in London and 3 in Liverpool. The deaths referred to scarlet fever, which had been 34, 34, and 31 in the three preceding weeks, rose to 37 last week, of which 8 occurred in London, 4 in Liverpool, and 3 in Birmingham. The fatal cases of enteric fever, which had been 8, 20, and 13 in the three preceding weeks, rose to 21 last week, and included 4 in London, 3 in Manchester, and 2 in Sheffield.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily decreased from 3599 to 3222 in the seven preceding weeks, had further declined to 3173 on Saturday last; 319 new cases were admitted during the week, against 401, 340, and 320 in the three preceding weeks These hospitals also contained on Saturday last 1295 cases of diphtheria, 338 of whooping cough, 129 of measles, 79 of enteric fever, and 1 of small-pox. The 1228 deaths from all causes in London were 10 fewer than the number in the previous week, and corresponded to an annual death-rate of 14 2 per 1000. The deaths referred to diseases of the respiratory system, which had been 243, 260, and 223 in the three preceding weeks, rose to 250 in the week under notice, but were 153 below the number in the corresponding week of last year.

Of the 5286 deaths from all causes in the 97 towns, 185 were attributed to different forms of violence, and 388 were the subject of coroners' inquests. The causes of 37, or 0 7 Bradford, Hull, Newcastle on Tyne, and in 56 other smaller towns. Of the 37 uncertified causes of death, 6 were registered in Birmingham, 6 in Liverpool, 3 in St Helens, and 2 each in Warrington, Rochdale, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

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The 729 deaths from all causes were 53 fewer than the number in the previous week, and included 66 which were referred to the principal epidemic diseases, against 73 and

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HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 636 births and 463 deaths were registered during the week ended Saturday, March 14th. The annual rate of mortality in these towns, which had been 19 1, 20 8, and 19 2 per 1000 in the three preceding weeks, rose to 20 0 per 1000 in the week under notice During the ten weeks of the current quarter the mean annual death rate in these Irish towns averaged 21 5 per 1000; in the 97 large English towns the corresponding rate did not exceed 16 6, while in the 16 Scotch towns it was equal to 18 5 per 1000 T

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The 463 deaths from all causes were 19 in excess of the number in the previous week, and included 35 which were referred to the principal epidemic diseases, against 35 and 33 in the two preceding weeks Of these 35 deaths, 14 resulted from infantile diarrhœal diseases, 8 from measles, 4 from scarlet fever, 4 from whooping cough, 4 from diphtheria, and 1 from enteric fever, but not one from small pox. The mean annual death rate from these diseases was equal to 1 5 per 1000; in the 97 large English towns the corresponding rate did not exceed 1·3, while in the 16 Scotch towns it reached 1 8 per 1000 The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 10, 9, and 12 in the three preceding weeks, further rose to 14, of which 8 occurred in Belfast and 5 in Dublin. The deaths referred to measles, which had been 3, 8, and 4 in the three preceding weeks, rose to 8, and included 5 in Dublin. The 4 fatal cases of scarlet fever, of which 3 occurred in Belfast, were 3 below the average in the earlier weeks of the quarter. The deaths attributed to whooping cough, which had been 6, 6, and 9 in the three preceding weeks, declined

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Lieutenant-Colonel F. J. Morgan has arrived home from India. Lieutenant-Colonel M. P. C. Holt, D.S.O., has been appointed to the Aldershot Command. Lieutenant-Colonel T. B. Winter has been appointed to the charge of the Military Hospital at Canterbury. Lieutenant-Colonel J. Kearney has been appointed to the medical charge at Landguard Fort. Lieutenant-Colonel J. F. Donegan has embarked for a tour of service in India. Lieutenant-Colonel C. C. Reilly has been selected as Senior Medical Officer at the Military Hospital, Calcutta. Lieutenant-Colonel A. Kennedy has been placed under orders for service abroad during the trooping season.

Major H. W. Grattan has been selected for appointment as Honorary Surgeon to the Viceroy and Governor-General of the East Indies. Major E. W. Bliss has been appointed to the Eastern Command for a tour of duty. Major H. P. W. Barrow has been appointed for temporary duty at the Medical Division of the War Office. Major M. H. Babington has taken up duty in the London District. Major F. Harvey has been appointed to the Military Hospital at Colaba. Major H. W. Long has joined at Upavon. Major P. S. O'Reilly has been appointed to the Medical Staff of the Royal Arsenal at Woolwich. Major A. M. Maclaughlin has been appointed to hold charge of the Military Hospital, Bellary Cantonment. Major L. M. Purser has joined at Meerut Cantonment. Major R. L. Argles has been appointed to the Military Hospital at Ferozepore. Major J. T. Johnston has been transferred from Bareilly to Lucknow Cantonment. Major F. S. Penny has been appointed to the Irish Command.

Captain T. S. Dudding has been transferred from the Bombay Brigade to Belgaum Cantonment, for duty at the Military Hospital. Captain P. S. Stewart has been appointed to the Southern Command for duty. Captain W. K. Beaman has arrived home from the Military Hospital at Malta, tour expired. Captain A. G. Jones has been selected for appointment as Officiating Staff Surgeon at Rawal Pindi Cantonment. Captain N. D. Walker has taken up duty at the Military Hospital, Quetta Cantonment. Captain A. C. Amy has joined at Agra. Captain N. Low has taken up duty as Specialist Sanitary Officer at the Military Hospital, Colchester. Captain J. A. Bennett has been appointed to the Dublin District for duty. Captain W. F. H. Vaughan has arrived home on leave of absence from Malta. Captain F. C. Lambert has been selected for appointment as Specialist in Advanced Operative Surgery to the Lucknow Division. Captain H. T. Stack has joined at Ranikhet. Captain E. B. Lathbury has been appointed to the Cork District for duty. Captain T. C. Lucas has arrived home on general leave of absence from the Military Hospital at Bombay. Captain A. L. Stevenson has been transferred from Nowshera Cantonment to Secunderabad. Captain G. F. Dawson has arrived home on general leave of absence from Chakrata Cantonment. Captain J. H. Douglass has embarked for a tour of service in the Sierra Leone Protectorate.

Lieutenant T. E. Osmond has been appointed to the Military Hospital at Lucknow. Lieutenant L. Buckley has taken up duty at Rawal Pindi. Lieutenant W. McNaughtan has been transferred from Devizes to Netley. Lieutenant R. T. Vivian has been appointed to the Military Hospital at Bangalore. Lieutenant E. B. Allnutt has taken up duty at the Military Hospital, Poona. Lieutenant E. G. H. Cowen has been detailed for a course of Indian sanitation and hygiene at the Military Hospital, Lucknow. Lieutenant F. R. B. Skrimshire and Lieutenant D. W. Bruce have embarked for a tour of service in India.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers of the Indian Medical Service:—Majors to be Lieutenant-Colonels (dated Jan. 29th, 1914): John Fisher, D.S.O., Stanley Arthur Harriss, David Waters Sutherland, William Selby, D.S.O., V.H.S., Vivian Boase Bennett, and Charles Ross Pearce. Captains to be Majors (dated Jan. 29th, 1914): Samuel Herbert Lee Abbott, Alexander William Greig, Richard James Bradley, James Woods, Thomas William Harley, John William McCoy, Roger Durrant Willcocks, Thomas George Ferguson Paterson, Dewan Ganpat Rai, Robert Macpherson Barron, William Reith John Scroggie, and Herbert Henry George Knapp. Lieutenants to be Captains (dated Jan. 28th, 1914): Alister Ralph Speirs Alexander, Frederick William Hay, George Tate, Sidney Milverton Hepworth, and Jyoti Lal Sen.

Colonel R. W. S. Lyons has been appointed Surgeon-General with the Government of Bombay.

Lieutenant-Colonel and Brevet-Colonel B. G. Seton, Deputy Director-General, has been granted nine months' furlough home from India. Lieutenant-Colonel F. J. Dewes has joined at Myingyan. Lieutenant-Colonel C. A. Johnston has been appointed Senior Medical Officer at Bangalore Cantonment.

Major L. T. R. Hutchinson and Major F. S. C. Thompson have arrived home on general leave of absence from India. The services of Major W. D. A. Keys have been placed permanently at the disposal of the Government of Bombay. Major W. H. Cox has been granted six months' extension of leave home from India. Major N. E. H. Scott has been appointed Consular Surgeon at Mohammerah and Agency Surgeon (Second Class). Major E. E. Waters has been appointed Civil Surgeon, Calcutta. Major A. W. F. King has taken over charge of the Special Prison at Aden. Major G. Macpherson has been granted three months' privilege leave of absence. Major J. E. Clements has been confirmed in the appointment of Superintendent of Central Prisons.

Captain A. C. Munro has arrived home from India. The services of Captain A. F. Hamilton have been placed permanently at the disposal of the Government of Bombay. Captain A. Barnardo, on return from furlough, has been appointed Civil Surgeon at Comilla. Captain D. C. V. Fitzgerald has taken over charge of the Central Prison at Hyderabad, vice Captain W. A. Mearns. Captain L. Cook has been selected for appointment as Civil Surgeon at Sambalpur. Captain B. B. Paymaster has taken up duty at Karwar as Civil Surgeon. Captain H. H. G. Knapp has been appointed Superintendent of the Central Jail at Rangoon. Captain A. T. Pridham has been appointed to the charge of the Central Jail at Mandalay.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

John Gray Ronaldson to be Lieutenant (on probation) (dated Feb. 23rd, 1914).

Lieutenant Charles W. C. Myles resigns his commission (dated Jan. 7th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South-Western Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain John R. Benson to be Major (dated March 15th, 1914).

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Major Fred D. Woolley resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated March 21st, 1914).

2nd Welsh Field Ambulance, Royal Army Medical Corps: Charles William Chester Myles (late Lieutenant, Royal Army Medical Corps, Special Reserve) to be Lieutenant (to be supernumerary) (dated March 25th, 1914). Ivor Jones Davies to be Lieutenant (to be supernumerary) (dated Feb. 16th, 1914).

3rd Northern General Hospital, Royal Army Medical Corps: Major Arthur M. Connell to be Lieutenant-Colonel (dated Feb. 20th, 1914).

Wessex Clearing Hospital, Royal Army Medical Corps: Captain Clarence Isidore Ellis, from the List of Officers attached to Units other than Medical Units, to be Major (dated March 25th, 1914).

Attached to Units other than Medical Units.—To be Captains: Lieutenant Cuthbert D. S. Agassiz (dated Oct. 30th, 1913), Lieutenant Francis D. Blandy (dated Nov. 3rd, 1913), and Lieutentant Edward O. Libbey (dated Feb. 16th, 1914). Major William B. Fergusson resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated March 21st, 1914).

SURGEON-GENERAL GORGAS.

Surgeon-General W. C. Gorgas, of the United States Army, who is being honoured by the medical profession in this country during his visit to England, was on March 18th entertained at dinner by the Director-General of the Army Medical Service and the officers of the Royal Army Medical Corps in their mess at the Royal Army Medical College, Grosvenor-road. Dr. Darling, and Major Noble were also guests, and among those present were Surgeon-General May (Director-General of the Royal Naval Medical Service), Sir William Osler, Sir Ronald Ross, Professor Martin (Lister Institute), Professor Nuttall (Cambridge), and Surgeon-General Evatt.

DEATHS IN THE SERVICES.

Surgeon-General Sir Arthur M. Branfoot, K.C.I.E., I.M.S. (retired), at Folkestone on March 17th. He entered the Indian Medical Service in 1872, became Lieutenant-Colonel in 1895, and retired in 1903. Shortly after entering the service he was appointed civil surgeon at Cocanada, and later was resident surgeon at the General Hospital, Madras, and professor of hygiene at the Madras Medical College. Being greatly interested in the medical treatment of women he was appointed superintendent of the Government Maternity Hospital, and in 1881 became professor of midwifery there. In 1898 he saw service in Burma, where he was principal medical officer of the Rangoon District. In 1901 he was appointed surgeon-general to the Government of Madras, and later served as principal medical officer of the Bangalore and Southern Districts. Surgeon-General Sir Arthur Branfoot was President of the Medical Board at the India Office and a member of the Advisory Board for Army and Medical Services from 1904 till 1913.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 776.)

XL.—LONDON: MAINLY NON-PANEL VIEWS.

THE survival under the Insurance Act of some of abuses which prevailed under the old forms of b practice is a matter that naturally gives rise much anxious discussion. Some insured persons nplain that they are paying twice as much as merly for treatment and getting no better vice or attention than they did before the Act. here used to be club doctors who could anise for the very rapid treatment of numerous ients, and they sometimes made incomes ounting to as much as £1000 a year from scribers of 4*s.* annually, and managed to ieve considerable popularity at the same time. day, if these subscribers have become insured sons and remain faithful to their club doctor who ow on the panel, the latter may be giving the e sort of attendance to the same people, but is iving twice the pay. It is reasonably argued if the situation has to be found fault with, the t lies at the patient's own door, and that in se of time he will discover how to get better tment. But there is the other point of view— ely, that scrupulous practitioners may discover are giving themselves more trouble than necesand that it pays very much better in contract tice to imitate the methods of the former club ors. "The club doctors are teaching us to do ork easily and cheaply," has remarked to me than one practitioner who under the Act was obliged to do contract practice for the first It is the old difficulty of finding the *juste u*—the line between giving an insured person ame attendance as if he were a private patient, h on ordinary business principles may be ult, and repeating stock mixtures, which may y not be serviceable in the case, as in the old lays. Under the Act it is a prescription and a bottle that must now be given, and this elf constitutes an improvement, for the preion is a witness of the treatment adopted and fore increases the practitioner's sense of nsibility. In settling what is the *best* treatpossible to be given there can be no rule. the practitioner on his side does and what atient on the other side expects must differ more in some instances than in others; therea my journeys round I hear nothing but coms in one quarter, and perhaps in the next s many express themselves as highly satisfied.

sured Persons in Workhouse Infirmaries.

Vandsworth I saw a Poor-law doctor who very tically insisted that his parish was giving much medical aid as it did before the Act. he said, constantly sending to the workhouse ary insured persons who have fully paid up nce cards. Panel doctors, he complained, off their bad cases to the parish doctor." xcuse generally given is that the patient be properly attended in his home. The doctor, on his side, dares not refuse mendation to the workhouse for fear atient should die without treatment, and are now insured persons dying in the Poorrkhouse infirmaries. From Edinburgh and other towns similar complaints have been received. The number of permanent old paupers that used to be on the parish books has decreased, but this is a consequence of the Old Age Pensions Act and not of the Insurance Act. As for sanatorium benefit, it may, and indeed, I presume, will come in good time, but in the meanwhile many tuberculous cases in various parts of the country are being sent to the workhouse infirmary as formerly.

I have been asked whether these panel doctors who get rid of their troublesome cases by converting their patients into paupers are to receive the money paid by those other insured persons who do not employ any medical man on a panel, but subscribe for medical aid twice over that they may exercise their freedom of choice. Here at Wandsworth I have seen and talked to poor people, very poor people, who, though insured, pay a penny a week, preferring to consult one of the doctors of the Wandsworth Medical Aid Society, for example, rather than go to a panel doctor. But as a doctor of the Medical Aid Society remarked: "If I were to go on the panel, these poor people would come to me, because they are faithful to me. Am I right in compelling them to incur an extra expense they can ill afford? Perhaps I ought to go on the panel for their sakes." By not going on the panel he had, as a matter of fact, lost about a thousand patients, judging from his previous records of practice. Some of his old patients came and consulted him, though they were insured, and they paid shilling fees, but they were so miserably poor that he often had to remit the shilling. He preferred to attend such persons for a penny a week.

A good deal of hesitation exists in different London districts turning upon these points. While some doctors are wondering whether they had not better, after all, go on the panel, others have retired. One of these I hear left the panel after sending a circular to all the insured persons on his list explaining his motives for so doing. The difficulty has been more or less met sometimes by partners, one of whom goes on the panel and the other keeps off, thus striving to please all parties.

Absentee Panel Doctors.

From Wandsworth I went to Finsbury. Though this is a very different part of London in many respects, I found some analogous conditions, and, of course, others quite special to the district. One peculiarity of Finsbury is the great reduction of the population and the improvement in their conditions of life. Some 30 years ago there were 166,000 inhabitants, many of them crowded together in appalling slums. Now most of the slums have disappeared and there are only 86,130 inhabitants, of whom from 26,000 to 28,000 are insured persons. During the last 10 years the local improvements have been marked. The poorer section of the community have migrated to Walthamstow and more outlying districts, and if those who remain are still crowded according to modern estimates they are not so very poor. There is a large lodger class. The principal occupations are the butchering trade and general occupation in the meat market, though there are many printers and persons employed in the carrying trade. The latter are the worst paid section of the inhabitants, but there is comparatively little extreme poverty in Finsbury.

To attend to this population there are 24 medical practitioners residing in Finsbury, and in January, 1913, when the Insurance Act first came into force, only three of them went on the panel. But this does not mean very much, as the area is small and medical men from the surrounding districts attend to patients in Finsbury and are inscribed on the Finsbury panel. To-day of the medical men residing in Finsbury 11 are on the panel, as is also the medical officer of the Finsbury Dispensary. Only seven residents are not on the panel. Also there are not only many doctors on the Finsbury panel who do not live in the district, but some of them reside a very long way off. This constitutes so serious a grievance that its occurrence, if it became frequent, should be prevented, even if for this purpose further legislation is necessary. One of the Finsbury panel doctors, who has a list of about 2000 insured persons, lives at Clapton. A couple of partners who have a list between them of 3000 to 4000, live at Stoke Newington. Another firm of two doctors, who also have a long list of patients, live in Bloomsbury. This firm is much nearer, but even they live quite a mile away from their patients. Of course, the doctors on the panel have surgeries in the Finsbury areas, but what is to happen in a case of emergency and any night call? Many a patient in the Finsbury district lives too far from his panel doctor to be expected to go to fetch him.

Some scandals have arisen in connexion with this sort of thing, if the facts have been correctly reported to me. A doctor who lived some miles off, and who was on a panel at Hampstead, bespoke some rooms in the district where he intended to establish a surgery, but was never present to sign the red tickets of those who placed their names on his list. Of course, it is well known, and has been often stated in THE LANCET, that many doctors put their names promiscuously on various panels presumably on the offchance that something worth having might result. Then when they found but few insured persons elected to be on their list they gave the matter up. Though they did no work, never signed a red ticket or saw a patient, their names increased the length of the list of panel doctors, and the longer the list became the more those who were hesitating felt they had better hasten to join before it would be too late. Thus even broken promises were of use to the advocates of the Act, whose good features have been so obscured by these and similar blemishes.

Prosperity of Non-Panel Doctors.

As already stated, on a former occasion, the impression prevails that in an industrial district, where nearly all the practitioners are on the panel, there is an opening for one or two non-panel practitioners. But in Finsbury a larger number of practitioners have found it advantageous not to go on the panel. Calling on one of the most prominent of these non-panel practitioners, he told me that with the aid of a partner he used to attend to 1850 subscribers belonging to various clubs. But when the Insurance Act came into force these club patients were largely scattered among the panel doctors by becoming insured persons. During the first month after the Act came into force he consequently experienced a loss of £50. But the disadvantages of contract practice, as established by the Act, soon became apparent to the population of Finsbury, and the loss at first experienced was later turned into a profit. By the end of 1913 the receipts, as compared with the previous year, had augmented to the extent of £200 for the two partners. A neighbouring practitioner who earned in 1912 from clubs £400, and from private practice £300, in spite of the loss of all his clubs when the Act came into force, found that his receipts for 1913 have risen to £900, an increase o £200. Though I was not able to get the precis figures I am assured that the other Finsbury practitioners who have not gone on the panel are no suffering in any way.

This remarkable state of affairs is attributed t the fact that the list of insured persons whom th panel doctors of the district have undertaken t attend is far too long. They consequently canno examine the cases properly. A large proportion o the patients attended by non-panel doctors in th Finsbury district are insured persons. But th work of the non-panel doctor is much mor arduous than it used to be when he attended before the Act, to club patients. There are no for him very few trivial cases. When an insure person comes and pays a fee it is because he i really ill and does not feel that his panel docto has sufficiently studied the case.

Some examples of inefficient treatment by pan *practitioners, owing to haste and overwork, we* given to me with much detail. These, when substantiated, form very pungent criticisms of th Act in its present form, for one of the grea advantages claimed as resulting from the A was precisely the early detection and nipping in th bud of disease, together with the prevention o infection. But if panel doctors have not time t examine their patients properly the claim become of no account.

A great number of medical practitioners used t do club work as their contribution towards th relief of distress. They could not afford to hav many club patients if they treated them as carefully as private patients, but thought it was righ to give such treatment to labourers and othe who really could not be expected to pay fee Now, to-day, these doctors who did the club wor well and conscientiously have not hurried on the panel; on the contrary, it is the club doct who so arranged matters as actually to make a b profit out of the 1*d.* a week the club member pa who hurried on to the panel, and he saw in the A an opportunity of getting double pay for the sam amount of work. Thus it is that, at least i Finsbury, the public are beginning to draw a li of demarkation between the panel and the no panel practitioner, and this I hold to be disastro to the progress of medical science.

(To be continued.)

QUEEN VICTORIA'S INSTITUTE FOR NURSES.—The following members of the medical profession have be appointed by Queen Alexandra to the council of Que Victoria's Jubilee Institute for Nurses to hold office un 1917: Sir Dyce Duckworth, Surgeon-Lieutenant-Colonel S Warren Crooke-Lawless, Dr. A. H. F. Barbour, Dr. Arth Shadwell, and Mr. Charters J. Symonds.

A RADIUM FUND FOR PORTSMOUTH.—An appe for procuring a supply of radium for Portsmouth and distri made by the *Portsmouth Evening News* has met with generous response, the sum of £1000 having been contribut within a week. A conference has been held, under t presidency of the mayor, for the purpose of forming a tru to represent the subscribers, who will obtain the radium soon as possible and make arrangements for its safe custo at the Royal Portsmouth Hospital. According to the ter of the appeal the radium will be available for all classes sufferers in the district. The fund is still open, and it proposed that any balance not immediately required sh be invested by the trustees to form the nucleus of permanent fund for the purchase of radium or of any oth remedial agent for the treatment of cancer which medic science may discover.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Memorial to Sir Rubert Boyce.

THE late Sir Rubert Boyce was professor of pathology at the University of Liverpool, the first bacteriologist to the city of Liverpool, and also one of the founders of the Liverpool School of Tropical Medicine. To keep his memory green the entrance hall of the Thompson Yates laboratories of the University has been embellished by Mr. C. J. Allen, the well-known sculptor, with a beautiful mural tablet, having as a centre-piece a representation in marble of the deceased scientist's features, still familiar to the University and many in the city. The ceremony of unveiling the tablet was performed on March 20th, in the presence of a number of subscribers to the memorial, by the Vice-Chancellor of the University, Sir Alfred Dale. Prior to the ceremony the company assembled in the surgery theatre, under the presidency of Mr. J. W. Alsop, the Pro-Chancellor, when Sir Alfred Dale, in offering the memorial to the University on behalf of Mr. J. W. Hughes and others associated with him, spoke eloquently of Rubert Boyce. Where others already had their place it was right, he said, that Boyce should share the honour as he had shared the service and the struggle. What more natural home for his memorial could there be than the laboratories with which he would ever be associated? Boyce loved the University of Liverpool. Without him the University of Liverpool might have arisen, but would not have been what it was to-day. The monument spoke of one among his many ventures, in which he and his colleagues confronted, challenged, defied and defeated disease in alliance, as it seemed, with the forces of Nature in her most malignant moods. The battle was not over yet. The men who led the way—Alfred Jones and Rubert Boyce—had fallen before they reached the end. But in any great effort they owed most to the men who first believed that the effort was worth making, and that success, though distant, might still be won. The memorial had a pathos of its own. The form and face that they saw there were not those that they recalled in earlier years. Boyce had known disappointment, pain, weakness, the desolation of bereavement. Time had wasted and worn him; but he was still intrepid, still eager, adventurous, impatient as of old; broken in body but whole in spirit. That was the man they knew and admired and the friend they remembered with honour and affection. Mr. Alsop accepted on behalf of the University a memorial of one who was "a great man of the University and of Liverpool, a man of high ideals, intrepidity, perseverance, and deep sympathy." Professor Ernest E. Glynn, a co-worker for 12 years, bore testimony to the indomitable energy of Sir Rubert Boyce. He suggested that Boyce's many friends might like to subscribe to some memorial which would be more vital than a marble monument and which would tend to increase scientific knowledge, and offered, if there was any general feeling in the direction, to act as convener of a meeting of subscribers.

Dinner to Professor C. S. Sherrington.

The University Association entertained Professor Sherrington at a farewell dinner on March 14th at the New Midland Adelphi Hotel, on the occasion of his leaving Liverpool to take up his appointment to the Waynflete chair of physiology in the University of Oxford in succession to Professor Francis Gotch, who likewise went from Liverpool to Oxford.

Medical Magistrate.

The addition of the name of Dr. W. Macfie Campbell to the commission of the peace for the city has given great satisfaction to his professional brethren. Dr. Campbell is consulting surgeon to the David Lewis Northern Hospital, and has been president of the Liverpool Medical Institution and also of the Liverpool Athenæum.

Annual Service for the Northern Hospital.

The Lord Mayor and Lady Mayoress of Liverpool, along with members of the city council and representative members of the David Lewis Northern Hospital staff, attended Divine Service in St. Luke's Church, Liverpool, on Sunday last (March 22nd), when collections were made in aid of the institution. Shortly before 11 o'clock a procession was formed in Leece-street, and along a route lined with spectators the Lord Mayor and party walked to the church, where a large congregation was gathered. The sermon was preached by the Rev. Russell Darbyshire. The offertory realised £54 17*s.*

March 24th.

SCOTLAND.

West of Scotland Branch of the Incorporated Dental Society.

AN interesting exhibition of surgical and mechanical appliances for the use of dentists was opened last week in Glasgow. The exhibition, which was organised by the West of Scotland Branch of the Incorporated Dental Society, was held in conjunction with the annual meeting of the branch. At the meeting an address was delivered on the subject of Dental Politics, which dealt with the question of a National Dental Service. It was pointed out that in the near future dental insurance benefits would be offered in a comprehensive manner, and the question was how this could be so accomplished that students might be attracted to the dental schools. It was suggested that dentistry should be freed from the semi-medical course and from the control of the Medical Council.

Royal Hospital for Sick Children, Glasgow.

In view of the approaching completion and opening of the new Royal Hospital for Sick Children, Glasgow, the directors have made several appointments to take effect when a transference is made from the old hospital. Dr. T. Kennedy Dalziel with Mr. R. H. Parry, and Dr. R. Barclay Ness with Dr. J. B. McKenzie Anderson, who have long been respectively visiting surgeons and physicians, are to be consulting surgeons and physicians in the new hospital. Dr. Alfred A. Young and Dr. Alexander MacLennan, for many years connected with the out-door department, are to be visiting surgeons in the new hospital. Dr. Leonard Findlay, who has also a long connexion with the hospital, is to be visiting physician.

A Hospital for Orkney.

At a meeting of the trustees of the Balfour Hospital, Kirkwall, the clerk read a letter from Mrs. Garden, widow of the late Bailie Robert Garden, of

Kirkwall, in which she stated that her family wished to present to Orkney, in memory of her late husband and their father, a hospital of up-to-date design and adequate for the requirements of the county of Orkney, including the burgh of Kirkwall. Details as to site, building, and accommodation are under consideration, and the trustees will be advised as progress is made therewith.

Small-pox in Aberdeen.

Two further cases of small-pox are reported in Aberdeen—one that of a woman in a small shop in the same street as the family who first succumbed, and the other that of a young medical graduate studying for the Diploma in Public Health. With regard to the former it has now transpired that the mother of the family originally infected, who herself developed the rash after she, with other members of the family, had been removed to hospital, visited this shop and talked for some time with the owner one or two days before being removed to hospital. The second victim had, along with other members of the D.P.H. class, been given the opportunity of seeing the cases in the hospital; but only those who stated that they had been revaccinated were allowed to enter the ward, among those being the graduate who has developed small-pox. It is understood that on three separate occasions he had been revaccinated, but in no instance had it been successful, and the graduate considered himself immune. Both cases are slight.

Dundee and Phthisis.

Dundee public health committee has come to an arrangement with Arbroath to treat tuberculous patients from that burgh in Ashludie Sanatorium, rights over six beds being ceded to Arbroath, for which £15 per bed per annum of standing charges should be paid, and 30*s.* per week for maintenance charges while the beds were occupied. Arbroath also asked for attendance at Arbroath Dispensary by an assistant tuberculosis officer, and the committee agreed to appoint an assistant tuberculosis officer so that this might be done, Arbroath to pay £100 towards his salary.

Proposed Children's Hospital for Dundee.

At a recent meeting of the court of the governors of Dundee Infirmary it was intimated that the provision of a new children's hospital had been receiving the earnest consideration of the governors. Although hampered through lack of funds, the directors were prepared to open a second ward for children in the infirmary if financial support was forthcoming; they had the ward accommodation waiting to be occupied, and building accommodation was already started to accommodate more nurses, who would be necessary for this and other demands. It is thought by many that the accommodation for sick children in the General Infirmary is inadequate, and that a city of the magnitude of Dundee should have a special hospital for sick children; Dundee has an extremely high infant mortality. 3000 children were attended in the out-patient department of the infirmary during last year, and 45 beds in the infirmary and 35 in the sanatorium were occupied by children. But as a large proportion of them are suffering from tuberculous disease, in view of the possible extension of the Government scheme to children there is naturally hesitation as to inaugurating a large and costly scheme at the present juncture.

March 24th.

IRELAND.

Alleged Malingering.

THE Irish Medical Committee some months ago gave directions to the Local Medical Committees in the panel areas to make inquiries as to whether malingering under the National Insurance Act took place in such areas, and in particular to investigate specific complaints, if any were forthcoming, against particular medical men for laxity in certification. The local medical secretaries applied to the societies operating in their respective areas for information on the point, and the replies received have now been laid before the Irish Medical Committee. A few of the societies declined to give any help, but many others have replied fully. None venture to make any specific charges. The secretary of one of the largest societies in the North of Ireland has borne testimony to the very conscientious manner in which the profession of county Antrim has discharged the duty of certification, though he thinks that some medical men have confused incapacity of a patient to follow his ordinary occupation with incapacity to work. The Cork representative of a large English society also bears testimony to the thoroughly honest way in which certificates have been given by medical men in Cork. Many secretaries declare that they have not experienced any excessive claims for sickness benefit. Only one secretary, that of a small diocesan society, makes any general charge of laxity, but he gives no particulars. It may be fairly assumed from the replies that on the whole there has been no just cause of complaint against the profession. The charges, which have been freely made prior to this inquiry, appear to have been formulated merely for the purpose of discrediting the profession, with the view of having the appointment of paid certifiers given to certain societies at the public expense.

The Local Government Board and the Appointment of a Medical Officer of Health.

The Tobercurry union is a large area in county Sligo, with a population of between 19,000 and 20,000 persons. It includes a town and a wide country district, and town and country alike have for years past suffered from the ravages of typhoid fever, the source of which has not been discovered. The duties of medical officer of health are performed, each for his own district, by the four dispensary medical officers at salaries amounting in sum to £60 a year. The guardians have recently proposed to appoint a superintendent medical officer of health at a salary of £40 a year. This proposal seems to err, if at all, on the side of modesty, but this is not the opinion of the Local Government Board, without whose sanction the appointment cannot be made. The Board has written to the guardians, pointing out that if the appointment is made three-fourths of the expense must be borne by the ratepayers. Not content with this, it is added that if such an official be appointed the Board will insist on his residing within the union. This condition is impossible to fulfil, as there are already as many medical men resident in the union as can reasonably hope to make a living there, and even an Irish medical officer of health cannot live on £40 a year. The restriction is all the more absurd in that Tobercurry lies midway between two considerable wns, Sligo and Swinford, both of which are ithin easy reach by rail or motor.

Belfast Ophthalmic Hospital.

At the annual meeting of the friends of the lfast Ophthalmic Hospital held on March 16th, e report presented showed that 189 patients were mitted to the institution for treatment, while 21 eye cases and 769 ear, nose, and throat tients sought advice and treatment in the extern partment Financially the total income for the ar was £477 11s 3*d*, the expenditure £393 7s 6½*d*, ving a balance in hand of £84 3s 8½*d*

arch 24th

PARIS.

The Effect of Sunlight on Nutrition

r Laveran recently brought before the Académie Medecine some experiments made in Algeria by Miramond, of Laroquette, which tend to show t the sun's rays can determine in the tissues ain reactions of a nutritive character Guinea were enclosed in glass cases on the terraces of rian houses and received a fixed ration of rammes of oats for each 100 grammes of weight during the winter When the on was reduced to 3 grammes on days when sun was powerful the guinea pigs' weights ained exactly the same The author, who, how does not appear to have investigated whether animals underwent less muscular exertion the hot days, thus lessening physiological nditure, compared this fact with the well n view that the alimentary needs of the m are less in summer than in winter, in hot tes than in cold Certain natives of Southern na retain their weight on a diet equal to 1200 ies, while the European mean requirement is calories Dr Miramond concludes therefrom the increase in the solar rays compensates for eduction in the ration It may, however, be with equal reason that a part of the alimentary intended to maintain the animal heat nes useless when the external temperature s a reduction in the expenditure of energy

Rival Antityphoid Vaccines

two antityphoid vaccines—that of Professor temesse prepared from heated cultures of h s bacillus, and that of Professor Vincent, l de Grace, prepared from cultures of many of bacilli sterilised by ether—continue to their results reported before the Academie de ine Following on the reporting of M nt's results obtained in Morocco and in small mics in the garrisons of France, M Chantemesse ade known the results of inoculations with accines in the army and navy In the it is shown that 60,851 non vaccinated ave given 1354 cases with 174 deaths, while those vaccinated, who numbered 2644, there t been a single case and of course no death navy the success has been the same, in the number of 4698 inoculated sailors there has en a single case of typhoid fever, while the non inoculated furnished 580 cases with ths By means of this vaccination it has ossible to check at once threatened epidemics isons, in industrial towns, and in an insane Immunity is acquired only after four sive inoculations M Chantemesse asserts is vaccine has no unfavourable sequelæ ts up no other disease, thus suggesting n the case of M Vincent's vaccine the reaction is very severe and that it runs the risk of giving rise to other diseases in young soldiers recently recruited The Minister of War has provisionally suspended in the army until May vaccination with M Vincent's vaccine, in consequence of the poor hygienic condition of the troops during the past winter, through a rainy season, and often in extemporised barracks M Vincent has declared that these measures have been adopted in the interests of his vaccine, in order that it should not be accused of producing the troubles that have been noted this winter in a large number of soldiers Typhoid fever, too, is quite rare in the army at present, and in the solitary focus where it exists, the garrison of Tours, vaccination has been practised

A New Sanitary League

A new association has been instituted to make war on flies and other insects, rodents and other animals which transmit infectious diseases The organising meeting of the society was held at the Ministry of the Interior under the presidency of the Secretary of State The elected officers are President, Professor Blanchard, vice presidents, Dr Renaut and Professor Vincent, General secretary, M Richter, who is secretary of the permanent commission on house sanitation

Legal Responsibility of the Medical Practitioner

The Seventh Chamber of the Tribunal of Paris has rendered a judgment of great importance to the medical profession A child having succumbed to an angina, the father sued the doctor for 1500 francs damages for malpractice on the ground that he had not made a bacteriological examination and treated the child with diphtheria antitoxin After hearing long arguments and much expert evidence the court gave judgment against the plaintiff on the ground that though those methods of diagnosis and treatment were in every way admirable, the law could not impose their use because they were still open questions in the present state of science Medical responsibility for malpractice was limited to disregard of measures that were practically unanimously enjoined, in other matters the doctor was allowed to base his diagnosis and treatment on such measures as his conscience dictated On the other hand, a patient who sued before the Paris Tribunal his former doctor for 50 000 francs, on the ground that the doctor had treated him for an affection of the lungs when, as was afterwards proved, he was suffering from an intestinal disease, has been awarded 20 000 francs The medical syndicates will endeavour to have this judgment set aside, fraught as it is with the gravest possible consequences to the profession, for cases are by no means infrequent in which the diagnosis between an infectious pneumonia and typhoid fever remains for a considerable period doubtful

Obituary

Dr Launois has died suddenly from myocarditis consequent on an illness of three years duration He was 55 years of age, and had been physician to the Paris hospitals since 1887, and a *professeur agregé* at the Faculty of Medicine since 1889 He was physician to the Hopital Lariboisière He had published important works on histology and pathological anatomy As assistant to Professor Mathias Duval he had acted as his substitute during the latter s last years, and on his death it seemed certain

but at that tin

the nomination

Industrial Alcohol Association has suggested placing wood alcohol under rigid supervision by the Internal Revenue, subject to a tax of from 2 to 10 cents per gallon, according to the degree of refinement. Partially refined wood alcohol carries in its obnoxious odour a warning against its use, but completely refined and deodorised wood alcohol (methyl) can be distinguished from pure grain alcohol (ethyl) only by expert tests. It is suggested that the law should also provide that wood alcohol must be labelled "Poison."

Pasteurisation of Milk to be Compulsory in New York City.

The recently appointed Commissioner of Public Health for New York City, Dr. Goldwater, has determined to enforce the order of the New York Board of Health adopted some time ago with regard to the pasteurisation of all grades of milk except the certified and guaranteed.

Restriction of Immigration.

Much dissatisfaction has long existed with regard to the manner in which unfit immigrants are allowed to enter the United States. A large proportion of inmates of insane asylums, and especially of those in New York State, have been found to be of alien birth. It is now proposed to add further amendments to the pending Immigration Bill, and several medical men and representatives of civic organisations have been summoned to appear before the committee. It is suggested that not only the insane but persons of "constitutional psychopathic inferiority" and chronic alcoholics shall be excluded. The period in which an alien who becomes a public charge may be deported is also to be extended from three to five years.

Scarlet Fever in New Jersey.

Recently there has been much scarlet fever in New Jersey, and an epidemic is now raging in the town of Florence. Twelve persons have died from it, and schools, churches, moving pictures exhibitions, and all places of public gathering have been closed. The epidemic is of a virulent type.

Small-pox.

Since Feb. 25th three districts of Philadelphia have been quarantined against the spread of small-pox, and more than 4000 persons have been vaccinated. The disease is believed to have been imported from Baltimore. The town of Niagara Falls has long been strongly antivaccinationist, and in consequence is not infrequently visited by outbreaks of small-pox. There are now 105 cases of small-pox there; 39 houses there are under quarantine, and 22 patients are being treated in the quarantine hospital. Cases of small-pox were reported from nine towns in the western part of New York State, all of which were traced directly to Niagara Falls. The order of Dr. Hermann Biggs, the new Health Commissioner of New York State, that the population of Niagara Falls be vaccinated has aroused great opposition.

Death of Dr. William Kelly Simpson.

Dr. William Kelly Simpson, professor of laryngology in the College of Physicians and Surgeons, Columbia University, New York, died recently. Dr. Simpson was born in Hudson, New York, in 1855. He graduated in Arts at Cornell University in 1876 and in medicine at the College of Physicians and Surgeons of New York in 1880. He became assistant professor of laryngology in 1892 and professor in 1904. He held many hospital appointments and was a member of many medical societies. Dr. Simpson was eminently successful both in practice and as a teacher, and was a man of great charm.

March 16th.

SOUTH AFRICA.

Death of a Well-known Rand Practitioner.

THE death occurred recently in Johannesburg of Dr. Johnstone Brown, who came out to South Africa in 1896 and commenced practice at Ficksburg in the Orange Free State. On the outbreak of the Boer war he was taken prisoner by General de Wet, but escaped. He then joined the British forces and was present at several engagements, notably Wepener, where he rendered splendid services to the wounded of both sides. At the conclusion of the war he commenced practice in Johannesburg, and soon acquired an extensive connexion. At the time of his death he was senior physician to the Johannesburg Hospital and medical adviser to several friendly societies. He was also honorary treasurer of the Witwatersrand Branch of the British Medical Association. He will be greatly missed, not only in professional circles, where he was beloved, but by a host of patients and friends.

Spread of Syphilis in South Africa.

Syphilis appears of late to have been spreading rapidly amongst the native races of South Africa. In the Transvaal and the northern districts of the Cape most native races are thoroughly infected; also in the Transkeian territories, though to a less extent. In Natal the disease is beginning to play havoc with the Zulus —perhaps the finest native race in South Africa. District surgeons are permitted to attend native patients at Government expense, but no control is exercised to see that they are attended or are kept under treatment when once placed on the register. The fees paid in the different provinces are small. Instances of European children having become infected from native nurse girls are of not infrequent occurrence, and adequate measures for the control of the disease are imperatively called for. A deputation from the United Municipal Association of South Africa waited upon the Prime Minister a few months ago, but got no satisfaction beyond the stereotyped reply that the matter would receive the consideration of the Government. It is to be hoped that steady pressure will be kept on the Government to induce it to appoint a Commission to deal with this question.

The Great Strike.

The railway strike has come and gone. It had been expected for many months, and when it came and the Federation of Trades proclaimed simultaneously a general strike of all trades the action of the Government in calling out the active citizen force and in the northern provinces the burghers, and in proclaiming martial law in those provinces and in Natal, foredoomed it to failure. The Medical Department of the Defence Force played its part in the recent mobilisation, but in the event of casualties it would assuredly have broken down, and the Government would have had to rely upon the civil organisations and hospitals. Fortunately, there were no casualties worth speaking of and the Government will doubtless realise that, however efficient the Defence Force is as a whole, the medical department needs strengthening. The need for the appointment of a suitable officer as Director of Medical Services should be apparent to

. The work cannot be done efficiently by a non- ofessional officer even when the latter is advised such an efficient professional officer as the esent staff officer for medical services, Major ock. So far as the intentions of the Government ve been announced, it is only proposed to ask rliament to pass an Indemnity Bill and necessary ancial measures during the present session. It expected, however, that the medical members ll insist upon the conditions on the mines being ought under review, and particularly the working the Miners' Phthisis Compensation Act, which been responsible for much criticism. Also it uld seem likely that an effort will be made to get Government to establish a definite Medical partment responsible for health conditions on mines, and also for the medical treatment of ne natives. The present system of part-time dical officers under the control of, and paid by, mining houses themselves has failed, and it is that the State should step in without further ay and establish a sound organisation to take trol and enable the workers on the mines to feel t Government is rendering their calling less gerous and striving to reduce the present alling death-rate.

Rhodesian Nursing Service.

n view of the shortage of nurses in South ica the Government of Southern Rhodesia organised a scheme which it is hoped will l to its hospitals being supplied with a icient number of probationers and trained ses. The service is managed by a chief matron is stationed at Salisbury under the general ervision of the Medical Director. The chief ure in the service is the terms upon which bationers are engaged. They receive £35 for first year, £40 for the second year, and £45 per um thereafter. This liberal remuneration is, course, due to the fact that Rhodesia still has to ruit most of its probationers from other parts of th Africa. Trained nurses receive £60 per um, which is less than they receive at many pitals in the Union, but as against this is the t that after ten years' service—five of which e to be passed as a matron—nurses in the vice are eligible to join the fixed establishment l receive a pension on retiring, which varies ording to the salary that they have previously n drawing.

b. 4th.

Obituary.

RANCIS HENRY HAWKINS, M.D., C.M. EDIN., M.R.C.P. LOND.,

LATE PHYSICIAN TO THE ROYAL BERKSHIRE HOSPITAL.

Dr. Francis Hawkins, of Reading, died suddenly his house on Feb. 26th. He had a serious illness ne years ago, and his health since then had been paired, but the news of his death came as a rprise.

Francis Henry Hawkins was the third son of the e Henry John Hawkins. He received his medical ucation at the University of Edinburgh, at Uni- rsity College, London, and at Vienna and Berlin. e obtained the M.B. and C.M. degrees at Edinburgh 1882 and the M.D. degree in 1899, and in the llowing year took the Membership of the Royal llege of Physicians of London. His early appointents included those of demonstrator of phys in the medical school of Charing Cross Hospital, resident physician to the Edinburgh Royal Infirmary, and house physician to the Brompton Hospital. Then for a time he was physician to the North London Hospital for Consumption and physician to out-patients at the Hospital for Epilepsy and Paralysis.

Going to Reading as a consulting physician, Dr. Hawkins was appointed about 20 years ago to the medical staff of the Royal Berkshire Hospital, and only resigned his post as physician last December. In addition to his hospital work and private practice he was examining physician to the National Hospital for Consumption, Ventnor, and a lieutenant-colonel in the Royal Army Medical Corps (Territorial Force), and was a medical referee under the Workmen's Compensation Act. He had also been president of the Windsor Medical Society and was a prominent Freemason. He made a number of communications upon professional subjects to medical journals, including a paper on ascites printed in the Proceedings of the Royal Society of Medicine in 1908. Soon after settling in practice at Reading Dr. Hawkins married Louisa Maud, daughter of the late Colonel Alexander Maclean, of Coll. He leaves five children, the eldest a boy of 17. The funeral took place at Welford, near Newbury, on March 3rd, the first part of the service being held at St. Giles's Church, Reading, where Dr. Hawkins had long been a member of the congregation.

NATIONAL SOCIETY OF DAY NURSERIES.—This society was founded in 1906 to promote organised efforts to found day nurseries for the health and protection of young children, to help conduct them on model lines, and to train nurses. The society aims at providing every crowded factory district of Great Britain with a public day nursery, where the children of mothers who are compelled to go out to work may be carefully nurtured, at a small charge per child, amid cheerful and happy surroundings, secure from the dangers of the street and injury. Abroad official grants are given to such nurseries both by the State and other public bodies, but in Britain the crèches or public nurseries are still entirely dependent upon voluntary contributions. The society's secretary and offices are at 4, Sydney-terrace, Fulham-road, London, S.W.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on March 19th, with Sir Francis H. Champneys in the chair. A letter was considered from the county medical officer of health for Herefordshire calling the attention of the Board to the attitude of the magistrates of the Ross Petty Sessional Division in dealing with a case where an uncertified woman was prosecuted by the county council for an infringement of Section 1 (2) of the Midwives Act, 1902. The Board directed that the matter be referred to the Privy Council and that the chairman be asked to communicate with the clerk of the Council on the subject. A letter was considered from the clerk of the county council of Hampshire inquiring whether, with a view to obtaining notification of stillbirths in all cases, the rules could be so amended as to provide that the bodies of stillborn children should not be disposed of without a medical certificate following upon an examination of the body. The Board decided that the matter be considered at the next revision of the rules. A letter was also considered from the county medical officer of health

the desirability of granting furth

of midwives within the county.

county medical officer of heal.

informed that the Board considers that the standard of training requires raising at the earliest opportunity, and is not prepared to consider any proposal for lowering that obviously absent in cooked food; no wonder, then, that the idea has got abroad that cooked food cannot contain vitamines, just because of the confusion that has arisen from one word being used in two quite different senses.

I am, Sir, yours faithfully,
W. D. HALLIBURTON.
King's College, London, March 21st, 1914.

ACUTE SUPPURATIVE OTITIS MEDIA IN SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—The question raised by Dr. J. Mackern in your issue of March 21st—viz., how long an otorrhœa arising in connexion with scarlet fever is capable of retaining its infectivity—is one of considerable importance. Unfortunately, it is one to which it is impossible to reply categorically. Since we are still in ignorance as to the identity, or even the nature, of the infective agent in scarlet fever, even the most careful examination of the ear discharge must needs fail completely to yield any direct evidence as to its infectivity

In coming to a decision, therefore, as to when it is safe to release from isolation a person who has recently had scarlet fever and whose ear is still discharging, we have, perforce, to fall back upon inferences based partly on the relationship observed to exist between otorrhœas of varying degrees of persistence and their apparent capacity to infect, and partly on the results obtained by following out our beliefs in practice. That the infection in scarlet fever attaches especially to the mucous membranes and their discharges rather than to the desquamating cuticle is now being generally recognised, traditional beliefs notwithstanding; but that a nasal discharge, particularly if of a purulent character, is far more potent for harm than a discharge from the middle ear is not, perhaps, so widely recognised.

My own experience does not lead me to regard with much apprehension the presence of an otorrhœa in a patient who has undergone the usual period of isolation, in the absence of any nasal discharge and of any marked relaxation of the fauces. The relative importance of a nasal discharge has been clearly demonstrated by the investigations into the origin of "return cases" of scarlet fever and diphtheria which were carried out some years ago on behalf of the Metropolitan Asylums Board. Dr. A. G. R. Cameron showed that, as regards scarlet fever, amongst the "primary infecting cases," 648 in number, which fell within the scope of his inquiry, rhinorrhœa was present in 52·3 per cent., whereas otorrhœa was present in but 8·3 per cent. In a good many of the latter a morbid condition of the nasal mucosa existed as well and furnished a more likely source of infection. That an otorrhœa arising in connexion with scarlet fever is infectious for a time is more than probable, but when it ceases to become so is impossible to ascertain, owing to our ignorance of the specific causative agent. Any dogmatic assertion on the point should be mistrusted. The period of infectivity, however, doubtless varies in different cases.

Although formerly insisting on a 12-weeks' isolation, a close acquaintance with scarlet fever, extending over more than a quarter of a century, has convinced me that, if the faucial and nasal mucosa are healthy, a patient may be released at the expiration of eight weeks with comparative safety. Nearer than this one cannot go in view o those occasional cases of scarlet fever in which the patient's infectivity is unduly protracted withou there being apparent any sign by which its presence might be suspected. So long as an otorrhœ persists the use of an antiseptic lotion and th careful disposal of anything liable to be soiled b the discharge are common-sense precautions.

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F. FOORD CAIGER.
South-Western Hospital, Stockwell, S. W., March 23rd, 1914.

SYPHILIS AND "MENTAL DEFICIENCY.

To the Editor of THE LANCET.

SIR,—We have read with much interest th letter of Sir H. Bryan Donkin in your issue March 14th on syphilis and mental deficiency. A your readers must heartily agree with him th the greatest caution requires to be exercised in th observation of facts and in the method of inte preting them before making public any doctrine implication that syphilis is a predominant cause mental defect generally. Sir Bryan Donkin the goes on to say that the conclusion which w expressed in our paper,[1] based on the examination 205 cases, that syphilis is the causative factor in very considerable percentage of cases of ment deficiency of whatever grade of severity as it present in over 50 per cent., is "wholly unwarrant by the facts adduced." He appears to base th criticism of our results largely on his statement th there has been hitherto, so far as he is aware, " attempt made to ascertain the frequency of positi reactions to the test in the blood of large numbe of individuals of similar conditions to those co posing the special groups *under investigation*, b to whom 'mental defect' cannot be attribute At the time of writing our paper we were actual in possession of such evidence regarding t percentage of positively reacting children similar age and social state, but without ment defect, which had been obtained in the course the examination of over 1000 children by one us (H. F. W.); but in view of the very hi association of syphilis with mental deficiency a epilepsy we did not imagine that the figur could fail to carry conviction to any one. summary of these control observations of one us (H. F. W.) was subsequently published in I Carl H. Browning's paper,[2] but it appears to ha escaped Sir Bryan Donkin's notice; the resul obtained were that out of 331 mentally norm children belonging to the same age and class grou who were attending the dispensary of the Ro Hospital for Sick Children and the Central D pensary, Glasgow, and who were not suffering fro frankly syphilitic conditions, 10 per cent. react positively in the Wassermann test. An entire independent observer, Dr. Elliot, who recent reported to the Glasgow Medico-Chirurgical Socie the results of the examination of a similar group 127 children in the measles and whooping-cou wards of Ruchill Fever Hospital, obtained positi reactions in 8·6 per cent. of cases. These resul correspond well with the figure (8·7 per ce of positives) in a small series of apparently norm school children, published by one of us (K. F.). way of contrast and as demonstrating the reliabili of the Wassermann test, it may be mentioned th in a group of 433 cases in which syphilis w cluded as far as possible by clinical methods only ; cases reacted positively, and of these 6 came om one family. Our results in 205 cases of mental ficiency and epilepsy have thus been controlled ; the observations of Dr. Elliot and of ourselves a series of 481 children belonging to the same ;e and class groups, from which it appears that nong mental defective and epileptic children in lasgow the incidence of syphilis is proved to be at ast five or six times as great as among children average intelligence. In view of these figures o find it difficult to understand how our conclusion garding the rôle of syphilis in mental deficiency id epilepsy can be avoided. With regard to the servations of workers in foreign countries we ive no comment to offer; we would only emphasise e fact that *all our cases were children*, since ean has drawn attention to the absence of positive action in cases of congenital syphilis after 16 years age. We would also draw attention to the fact, owever, that another worker here, Chislett, at oodilee Asylum, Lenzie, obtained 35 per cent. of sitive reactions in his series of 26 cases belonging this group.[3] Thus the sum total of results in is country bears out the statement of Browning d McKenzie that "syphilis plays a larger part congenital mental affections than is genelly supposed. ...... If medical science is prepared urge prophylactic measures for the prevention such diseases, it is well that it should be finitely established and recognised that a conlerable proportion of cases of congenital mental ficiency are of infective origin and that the fection is syphilis."

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[1] Journal of Mental Science, October, 1913.
[2] Brit. Med. Jour., Jan. 10th, 1914.

We are, Sir, yours faithfully,
K. FRASER, M.D., B.Sc., D.P.H.
H. FERGUSON WATSON, M.D., L.R.C.P.
Iarch 18th, 1914.

HANGES IN THE BLOOD IN SURGICAL SHOCK.

To the Editor of THE LANCET.

SIR,—In his very interesting Hunterian lecture iblished in THE LANCET of March 14th Mr. A. endle Short repeatedly mentions the difficulty understanding how a fall of blood pressure in be associated with a normal heart action id contracted peripheral arteries. He very ndly credits me with having long maintained e view that the arteries are contracted in shock, hich view he accepts at least in so far as the eripheral arteries are concerned. He therefore jects Crile's theory of vaso-motor paralysis, and he jects also the "acapnia" theory, the "oligæmia" eory, and the "suprarenal exhaustion" theory. y a process of exclusion he is driven "to return to e central nervous system" to seek "an explanaon of a falling blood pressure with a normal heart nd vaso-motor centre and contracted peripheral rteries."

I do not propose to make any comment upon the xplanation which Mr. Short suggests, but I should ike to be allowed to endeavour to persuade him to econsider his conclusion regarding oligæmia. He ays that "if the total blood volume were reduced *oligæmia* = scanty blood) the blood pressure would all and yet the heart and vaso-motor centre might ct well and the arteries be constricted." He, owever, rejects the view that the total blood olume is reduced, because he did not find that t pecific gravity of the blood showed any rise in certain cases of shock which he studied, and in one patient, to whom a pint of saline and glucose had been given, there was a fall of the specific gravity of the blood. Sherrington and Copeman came to an opposite conclusion—namely, that the specific gravity of the blood rises in the state of shock, and, as Mr. Short says, I accepted their statement because it so clearly harmonises with clinical facts. Apart from variations in the specific gravity of the blood, I would point out that in well-marked shock the peritoneum is as pale and bloodless as the skin, an assertion fully corroborated by Crile. I cannot agree with Mr. Short's statement that the abdominal veins are dilated in shock. In fact, a chief characteristic of shock is the bloodlessness of the tissues everywhere, and therefore it seems to me impossible to avoid the conclusion that the blood somehow gets out of the vessels. When in addition it is observed that the patient is sweating freely the evidence seems conclusive. I think it highly probable that serum escapes primarily and that the specific gravity of the blood does tend to rise, but when I first wrote on this subject I pointed out that there are indications that the solid parts of the blood are also destroyed in excessive amount in the state of shock—to wit, for example, the bilious vomiting so commonly observed. Hence I would not pin my faith to a raised specific gravity of the blood as a necessary effect of its diminished volume, and particularly in clinical cases, in which there may be many complicating conditions, this consideration might lead to error. It must be remembered also that hæmorrhage tends to *lower* the specific gravity of the blood. I am, therefore, not persuaded that Mr. Short's evidence justifies his conclusion that it is "quite clear that oligæmia cannot be the essential factor in shock." I do not claim such importance for the condition, but it seems to me quite certain on clinical evidence alone that the amount of blood in the vessels diminishes as shock develops, and I think that Mr. Short might well revise his decision on this point.—I am, Sir, yours faithfully,

Wimpole street, W., March 21st, 1914. JOHN D. MALCOLM.

CHOLESTEROL ANTIGEN IN WASSERMANN'S REACTION.

To the Editor of THE LANCET.

SIR,—So long as the discussion upon the uses and abuses of cholesterol in the Wassermann's reaction remains scientific and becomes no personal matter perhaps some real good may result. At the present moment a subcommittee is sitting to discuss the relative merits of the various ingredients and modifications of the Wassermann's reaction; useless as it may be any *additional* knowledge can do no harm. Before the *relative* merits of the ingredients and *modifications* of the Wassermann's reaction are given any consideration whatever, the *rationale* of the reaction should be understood; not until the empiricism is removed can any good result from an inquiry. *It follows* from this that the addition of any new *substance*, such as cholesterol to the antigen, is *only another* step into the dark; indeed, it is *a* hindrance and not an advance. For the last two years I have been trying to fathom the cause of the

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[3] Journal of Mental Science, vol lvii., 1911.

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[1] Journal of Mental Science, October, 1913.

[2] Brit. Med. Jour., Jan. 10th, 1914.

would be a good criterion of the value of any ested legislation in connexion with medicine to ider whether we are proposing to extend leges already possessed by the independent es to those who are in poverty, or to set up for in straitened circumstances so-called benefits hich the wealthy classes would never avail nselves. Measured by such a test the whole- salaried medical service will, I believe, be rded by the great majority of the public and profession as unacceptable.

have no scruples in thus pointing out to that his panacea for all medical evils is icable, for I am sure I can show him that real improvements he desires are attain- endently of his cherished whole-time tor on a panel can refer his patient t, a specialist, or a bacteriologist, just profitably as could a member of a . The provision of sufficient tion throughout the kingdom, essible to all classes who want be, of the State in securing ust depend upon the to the wards being rvant of the State. rsons and others sities are already y philanthropic voluntary hos- for consider- systematic to is almost certainly necessary in many directions. A chief obstacle to the attainment of these desirable aims is the clamour of a small section of reformers who insist, in season and out of season, that the only possible way of remedying existing evils is the quite impossible way of transforming all that part of the profession which treats the industrial classes into a State service of whole-time salaried officers.

No one stops progress so much as he who insists that the impracticable must first be achieved.

I am, Sir, yours faithfully,

Harley-street, W., March 15th, 1914. LAURISTON E. SHAW.

THE MILWARD FUND: A LETTER OF THANKS.

To the Editor of THE LANCET.

SIR,—Will you allow me, through THE LANCET, to express a little of the gratitude I feel to all those who have so generously helped me and my boys in our need?

Of the practical sympathy shown us, you have just published some of the material results; and only those with children to equip for their work in life can realise the load of responsibility of which I have been relieved by the assurance of good education for my boys, and of the means to meet their expenses during their apprenticeships.

I cannot hope to express adequately my appreciation of this, and even less can I do so of the constant reminders of sympathy and encouragement that so many have given us since our loss.

I can only trust that our gratitude may meet with the same understanding that our many friends have shown us in our sorrow.

Believe me, yours faithfully,
E. S. DOROTHY MILWARD.

5, Glossop-road, Cardiff, March 21st, 1914.

AN ASSOCIATION OF TUBERCULOSIS MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—The letter on the above subject in your issue of March 21st suggests to me four points:—

1. Sanatorium and consumption hospital residents and pathologists to be included. There would then result an association somewhat like the German one of *Tuberkulose Aerzte*, excellent reports of whose meetings reach one from time to time. It must be confessed that some tuberculosis officers have been appointed upon insufficient experience and scarcely know their subject.

2. None but "tuberculosis whole-timers"—i.e., those who deal with no other disease—to be eligible for any sort of membership.

3. Coöperation with the existing Irish association to be ted in every possible way, perhaps later by establish- [illegible] be [illegible] or [illegible] ttee [illegible] s of [illegible] and general management.

I enclose my card and remain, Sir,
Yours faithfully,
TUBERCULOSIS OFFICER.

March 23rd, 1914.

VICTORIA HOSPITAL, FROME.—It has been decided to carry out extensions and improvements at this hospital in order that the institution may be placed on the official list of the Somerset County Insurance Committee, and thus be in a position to treat patients suffering from tuberculosis. The cost of the scheme is estimated at £1250.

to him to associate with the toast the name of a former much-beloved pupil who had brought considerable credit on his old Cork *alma mater* by his distinguished services to science and the nation. The President, in reply, said he felt it a great honour to be placed in a chair which had been filled by such well-known members of the profession as Lord Ilkeston, William MacCormac, Richard Quain, Sir William Whitla, Professor Alexander Macalister, Sir Alfred Keogh, and Dr. Macnaughton-Jones. During the evening it was announced that the Arnott gold medal had this year been awarded by the council to Dr. A. Launcelot Hoops, a State surgeon in the Malay Peninsula, for his heroism in endeavouring to save the life of a boy who fell into the river Liffey.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The House of Commons and Housing.

Housing questions have recently been prominently before the House of Commons, and although the atmosphere of party surrounds the solutions of some aspects of the problem, it is common ground that from the public health point of view much requires to be done both in the direction of erecting new houses and in dealing with existing insanitary dwellings. A discussion on the problem took place on Friday, March 20th, on the Housing of the Working Classes Bill, the second reading of which was moved by Sir A. Griffith-Boscawen. It may be noted at the outset from the narrower medical aspect that one of the most important announcements made in the course of the debate was that the Government was giving earnest attention to the question of the security of the positions of medical officers of health and sanitary inspectors.

The Bill is promoted by members on the Opposition side of the House. Sir A. Griffith-Boscawen indicated the three principles on which it proceeded. The first was that the housing evil was so great that the nation must step in and shoulder part of the burden; the second was that the State should work through the local authorities; and the third was that although State and municipal provision was necessary, private enterprise must continue to do the biggest share. With regard to the country, the Bill provided that where houses could not be built to be let at rents which the poorest could afford to pay, the State should bear a portion of the cost. In the subsequent debate much was heard about the evils to health which arise from overcrowding and insanitary dwellings. Some objections were taken to the Bill on the Ministerialist side on the ground that it would provide a "subsidy" to landowners.

Mr. Herbert Samuel, the new President of the Local Government Board, fully admitting the gravity of the problem of housing, urged a number of financial considerations against the precise proposals of the Bill. He intimated that he had taken steps to set on foot a housing survey with a view to ascertain the number of houses unfit for habitation and the number of those which, while not absolutely unfit, were unhealthy and required structural alterations. Amongst the proposals which the Government favoured to provide a remedy were the enactment of a minimum wage and the relief of rating upon housing and improvements. He also looked to the improvement in methods of transit to spread the population over a larger area. It was desirable to remove restrictive building by-laws, and the Parliamentary Secretary of the Local Government Board had accepted the duty of acting as chairman of a Departmental Committee to go into this question and to make suggestions for legislative and administrative action. The report of the Departmental Committee on Local and Imperial Taxation would be published in a few days. It would be found that amongst their proposals would be a suggestion that there should be a grant from the Central Exchequer to all local authorities to assist them to deal with questions of public health. The grant, it was suggested, should be based upon population and should be conditional upon the due performance of their duties in respect to public health. He was not in a position to pledge the Government with regard to that, for it had not yet come under the consideration of the Treasury. Amongst other matters the security of the positions of medical officers of health and sanitary inspectors was receiving the earnest attention of the Government. They were also considering a number of minor amendments of the Housing Acts.

The Bill was read a second time, without a division.

HOUSE OF COMMONS.

Wednesday, March 18th.

Grants for the Treatment of Tuberculosis.

Mr. Astor asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners—(1) whether any councils of counties or county boroughs ha agreed, under Section 17 of the National Insurance Act, 1911 to pay half of any expenditure on the treatment of tuberculous insured persons over and above the money provide for sanatorium benefit under Section 16 of the same Act and, if so, whether he would give the names of thos authorities in England, Scotland, Ireland, and Wale respectively who had agreed to such expenditure; an (2) whether any Insurance Committees had under Sectio 17 (2) of the National Insurance Act, 1911, transmitted to th Treasury and the councils of counties or county boroughs an communication or account showing that the amount available for defraying the expenses of sanatorium benefit t insured persons resident within their area was alread or was likely to be insufficient to meet such estimate expenditure; and, if so, whether he would give thei names.—Mr. Wedgwood Benn wrote in reply: Th arrangement by which the Treasury is prepared to mee one-half of the annual net cost to a local authority of scheme for the treatment of tuberculosis among the whol population of the area has provided an alternative to procedure under Section 17 (2) of the National Insurance Act 1911, which alternative has been widely adopted by loca authorities. In England, though procedure under Sectio 17 (2) has in a few instances been at first suggested, th alternative method of a Treasury grant towards the cost of *comprehensive scheme is generally preferred, and in no* cas has Section 17 (2) been put into operation. A grant unde the subsection has been sanctioned in the case of thre counties and nine burghs in Scotland and in the case of on county in Ireland. All the counties and county boroughs i Wales with one exception have agreed to contribute out o the rates to the Welsh National Memorial Association.

Treatment of Tuberculous Persons.

Mr. Herbert Samuel (President of the Local Government Board), replying to Mr. Astor, wrote: According to special return obtained in November, 1911, there were a. that time 6908 cases of pulmonary tuberculosis and 1946 cases of other forms of tuberculosis under treatment in Poor-law institutions in England and Wales. There are no later figures available.

Mr. Hume Williams asked the right honourable gentleman in how many sanatoriums provided under the National Insurance Act for the treatment of tuberculous patients non-insured persons were being or had been treated, and where these sanatoriums were situated.—Mr. Herbert Samuel (in a written answer) replied: As regards England, all the sanatoriums the provision of which is being aided by grants from the Local Government Board will be available not only for those insured under the National Insurance Act, but also for the non-insured; and the other sanatoriums which have been approved under the Act for the reception of insured persons are also generally being used for non-insured persons as well. In regard to the last part of the question, perhaps I may refer the honourable Member to the return of approved sanatoriums presented to Parliament last autumn. The information contained in the return was brought up to date at the end of January, and I am sending the honourable Member a copy of the revised list.

Mr. Hume Williams also asked the right honourable gentleman whether in some institutions in which tuberculous patients were being, or had been, treated under the National Insurance Act, patients suffering from other and infectious diseases were, or had been, treated at the same time under the same roof, and not only in separate pavilions; and, if so, which were these institutions.—Mr. Herbert Samuel wrote in reply: Proposals were submitted to the Local Government Board in the case of five institutions to use for the treatment of tuberculosis, under the National Insurance Act, a portion of a building the other portion of which might be required in emergency for the treatment of other infectious diseases. In these cases temporary approval was given either on condition that the tuberculous patients would be removed if cases of other infectious diseases were received in the building, or on other conditions which I am advised sufficiently safeguarded the patients against risk of infection. The institutions in question are the infectious diseases hospitals belonging to the corporations of Blackpool, Winchester, Hastings, and Hove, and the urban district council of Barnes. In the case of the last three hospitals arrangements have now been made whereby a whole pavilion is set aside for the treatment of tuberculosis.

Insured Persons and Non-Pulmonary Tuberculosis.

Replying to Mr. Astor, Mr. Wedgwood Benn said: The sanatorium benefit return in course of preparation will show the number of insured persons suffering from non-pulmonary tuberculosis who have applied for and received treatment.

Insured Persons and Homœopathic Practitioners.

Mr. Wedgwood Benn informed Mr. Montagu Barlow that it was open to an insured person who desired the services of a homœopathic doctor not on the panel to apply to the Insurance Committee for leave to make his own arrangements for the purpose.

Mount Vernon Hospital.

Mr. CHANCELLOR asked the Chancellor of the Exchequer whether he had received the resolution passed at a public
town-hall on March 10th, which
f the Mount Vernon Hospital for
and would he state what action
matter.—Mr. WEDGWOOD BENN
y right honour-
rred to in the
mittee has not
research work
that he is not
that might be
included in such a scheme.

Mr. CATHCART WASON asked whether the Medical Research Committee under the National Insurance Act had actually acquired Mount Vernon Hospital, Hampstead.—Mr. WEDGWOOD BENN answered: The reply is in the affirmative.

Colonel BURN: May I ask whether this General Insurance Fund money is being used for vivisection research?—Mr. WEDGWOOD BENN: Under the Act there is a Parliamentary grant for the purpose of research work.

Colonel BURN: Is it allowed for vivisection work?—Mr. WEDGWOOD BENN: In my answer I stated that the Research Committee has not yet prepared a scheme.

Experiments on Living Animals.

Mr. MCKENNA, the Home Secretary, informed Mr.
s involved in the prepara-
on Living Animals. In
he would arrange for its
May, all he could say
than that it should be
late of the publication
the power to institute
Act so far as the Home
ported to the Secretary
of State so soon as they were discovered

Mr. Graham is not now a member of the Research Defence Society. He informs me that he subscribed to it formerly for the purpo
bearing on his work a
n Egypt, but he too
resigned his membership on appointment as inspector under the Cruelty to Animals Act 1876. The recommendation of

regard to that recommendation in appointing Mr. Graham.

Overcrowding in England and Wales.

Mr. ASTOR asked the President of the Local Government Board what was the number of houses in England and Wales which were overcrowded on the basis of more than two persons to a room.—Mr. HERBERT SAMUEL furnished the following written answer: The number of separate houses overcrowded has not been
correct basis for an
of 1911 show the nu
ation overcrowded
room, as follows:—

Rooms in tenement.	Number of families.	Population.
1	57,835	211,770
2	135,092	804,071
3	130,272	1,023,925
4	81,811	792,716
5	22,484	260,246
6	3,097	41,770
7	294	4,503
8	16	288
9	9	183
Total 1-9 rooms.	430,910	3,139,472

Imported Milk.

Replying to Mr. ASTOR, Mr. HERBERT SAMUEL stated that 51 samples of imported cream and 25 of imported milk were obtained by the Local Go
s during
1913, and were
of the
samples were fou

Dwellings Unfit for Human Habitation.

Mr. ASTOR asked the President of the Local Government Board whether he would state how many dwelling houses had been found to be in a state so dangerous or injurious to health as to be unfit for
inspections made by lo

epresented to be in such a
March 31st, 1911, 24,429; in the year ended March 31st, 1912, 47,429; and in the year ended March 31st, 1913, 56,318.

THURSDAY, MARCH 19TH.

Nursing Home in Sierra Leone.

Mr. MCCALLUM SCOTT asked the Secretary of State for the Colonies whether it was proposed to close the nursing home in Sierra Leone Colony to native practitioners possessing European qualifications, and if so, upon what grounds was this decision based.—Mr. L. HARCOURT answered: The Government

Treatment of a Suffragist Prisoner.

Mr. ASTOR asked the Home Secretary whether his attention had been called to the fact that Dr. Flora Murray and
Dr. Frank Mo
Phyllis Brady
stated that the
had been given
and would he state whether Miss Brady was given bromide or any other hypnotic drug whilst in Holloway.—Mr. MCKENNA said in reply:
were entirely without foundatio
other hypnotic drug was given
in Holloway.

Panel Chemists in Stoke-on-Trent.

Mr. GODFREY LOCKER-LAMPSON asked the honourable

the chemists in their area would only be paid 85 per cent. of their bills for 1913; whether the cost per prescription had risen during the year; and whether he proposed to see that these accounts were paid in full.—Mr. WEDGWOOD BENN answered: My right honourable friend understands that the drug funds of the Insurance Committee referred to, in whose area the per-attendance system was in operation for the first quarter of 1913, are estimated to amount approximately to 85 per cent. of the total chemists' bills presented. In the absence of any action
the sur-
al amount
nt of their
they have
sen during
decreased.

Mr. ASTOR
George's-
in-the-East h
ttees had
extended san
many had
ceased giving
ow many
were still giving it to dependents of insured persons.—Mr. WEDGWOOD BENN (by written answer) replied: In England
sanatorium be
extended to the dependents of
38
insured perso
ing
have now rev
er,
dependents.
in
dependents of
the
many other
23
are
m-
are
arrangements with the Welsh

Treatment of Non-Pulmonary Tuberculosis.

Mr. ASTOR asked the President of the Local Government Board whether any county councils or county borough councils, in preparing schemes for treating tuberculosis, had submitted proposals for treating non-pulmonary tuber-
have done so.—Mr. HERBERT
first part of the
mes submitted
Hertfordshire,
ounty borough
ool, Plymouth,
for the treat-
in the large

majority of other cases the schemes are not expressly limited to the treatment of pulmonary tuberculosis.

MONDAY, MARCH 23RD.

Treatment of Tuberculous Persons.

Mr. CASSEL asked the Prime Minister whether the Government would introduce legislation to enable the expenditure incurred in treating insured persons suffering from tuberculosis in workhouse infirmaries to be recouped to the ratepayers.—Mr. ASQUITH replied: The question of the treatment of tuberculous insured persons is receiving consideration, but the Government have no intention of amending Section 12 of the National Insurance Act, 1911, in the direction suggested.

Medical Cards.

Mr. CHARLES BATHURST asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether he was aware that the Insurance Commissioners had required in Memorandum 187 I.C., that no insured person would on and from Jan. 12th last be able, without a medical card, to exercise a choice of, or to claim treatment from, a doctor selected by him; that in spite of such regulations the medical cards had not reached insured persons in several hundred thousands of cases, with the result that they were wholly unable to obtain medical benefit when sick except at their own expense; and whether, as in such cases insured persons were being deprived of the benefit promised to them as the result of their own and their employers' contributions, the Government proposed to take any and, if any, what action in the matter.—Mr. WEDGWOOD BENN answered: Under the arrangements indicated in the memorandum in question doctors are not permitted to require the persons on their lists to produce medical cards as a condition of their receiving treatment until notified by the Insurance Committee that medical cards have been issued to all such persons. Those arrangements, moreover, provide a special procedure whereby persons who desire to choose a doctor may obtain a medical card for the purpose upon application, and my right honourable friend has no reason to believe that there is any ground for the apprehension of the honourable Member.

Surcharging for Drugs.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East whether in the case of a deficiency in the drug fund in any district chemists who had not had their accounts paid for 1913 could surcharge the doctors for the amount if it was proved that the prescriptions had not been unreasonable.—Mr. WEDGWOOD BENN answered: The provisions of the Regulations as to surcharging apply only to prescriptions which are in excess of what is reasonable either in character or amount.

TUESDAY, MARCH 24TH.

Strike in Medical College, Lahore.

Mr. MACPHERSON asked the Under Secretary of State for India whether there was a strike of students in the Medical College, Lahore; if so, what was the cause of the strike; and whether he could say if there was an immediate prospect of its termination.—Mr. CHARLES ROBERTS replied: I have seen certain conflicting reports in the press as to the causes of the strike, but I am not in a position to make any statement. It is stated in the press that the strike is now ended.

The Drug Fund.

Mr. GODFREY LOCKER-LAMPSON asked the Prime Minister whether the Government would give facilities for the introduction of a Bill to provide a grant for those panel chemists whose accounts for 1913 could not be met out of the drug fund under the National Insurance Act.—Mr. ASQUITH answered: No, sir, I am not aware that a case has been made out for altering the arrangement under which the existing Parliamentary grant is given.

Medical Aspects of the Insurance Act.

Sir HENRY CRAIK called attention to the administration of medical relief under the National Insurance Act, and moved "That, in the opinion of this House, medical relief under the National Insurance Act is open to objection as regards some of its principles, inadequate in many respects, and likely to lead to serious difficulty, and that the supply of sanatorium benefit is greatly defective." The honourable Member said that 16,300 medical men were on the panels. There were many of them amongst the best of their profession ready to do honest work for their profession. But these panel practitioners were spread over 13,000,000 people, and a good many of them were duplicated on different panels. Patients were not equally distributed. There were cases where one doctor had over 3000 people on his list. The Act provided that these people were to receive adequate medical service. Was there time for skilled diagnosis in the case of men who had 2000 persons on their lists? What about provisions for operations? Nursing was not properly provided. The difficulties of hospitals had been increased and their resources crippled. Had adequate compensation been given for this? The honourable gentleman referred to malingering under the Act, and said that medical resented any suggestion that they were in any d responsible for conniving at it. The medical man's duty was to his patient, and he had to put that befor consideration of the funds of a Friendly Society. Government had involved themselves in a mass of com tions by adopting the system which they did in the Na Insurance Act.

Mr. GODFREY LOCKER-LAMPSON seconded. He said th would not deal with the part of the subject which honourable friend had spoken of. He would refer to matters on which the expectations of the public had deceived at the present time. In many thousands of sufferers from tuberculosis were not getting the treat which they were paying for. If the Act was to be fair, must be equality of treatment for everybody. The honour Member also raised the question of the deficiencies drug fund in certain areas of Lancashire and elsewhere. cause of trouble was not the unreasonable prescribing by doctors, but excessive sickness in industrial areas. drug fund was in danger of becoming bankrupt.

Mr. HERBERT SAMUEL said that it had to be rememb that "sanatorium benefit" as used in the Insurance Act not imply that every consumptive person must neces be sent during the whole period of his illness to a sanator The cases in their earliest stages were sometimes of doubtful diagnosis, and it was necessary for them to be wa at the dispensary or hospital. After a patient had been sanatorium, if the disease was arrested, he resumed ordinary daily life, and received domiciliary treatment the case grew worse the patient should have ho treatment. The Astor Committee reported that beds required in the sanatoria for insured persons 2100 and an equal number in hospitals. The num of beds provided in sanatoria in England for the persons who might need them and for others was and the number in hospitals 2580. Up to the presen fewer than 20,000 insured persons had received treatmen tuberculosis either at sanatoria or in hospitals. W certain additional beds which were contemplated were vided there would be 12,000 beds in the country for per suffering from this disease. For the first time an endea was being made to make provision for the whole of population. At the present moment the measures wer the most part only in the preparatory stage. There adequate accommodation in sanatoria for all insured per suffering from tuberculosis. There was not yet adeq accommodation for the whole population, but it was b provided. Eighty per cent. of the population of Eng were already covered by the schemes so far submitted b local authorities.

Mr. H. FORSTER pointed out that the Insurance C missioners had as yet been unable to arrange for the serv of consultants who would be required to deal with c requiring more specialised attention than a general pra tioner could be reasonably expected to give. He also as whether suitable treatment was always afforded in the ca of tuberculosis treated under the Insurance Act.

Mr. WEDGWOOD BENN (who represents the Insura Commissioners) asked the honourable Member (Sir Craik) whether the members of the medical profes authorised him to commit them to a voluntary syste insurance. If so, what were they to charge the patie Would they go on treating them at the same rate if the lives went outside the system of insurance?

Mr. LOCKER-LAMPSON: Will the honourable gentle say whether the chemists are to be paid or not?

Mr. WEDGWOOD BENN: Is the honourable gentle authorised by any body of chemists in Manchester or Sal to complain that any money owing to them is not paid?

Mr. LOCKER-LAMPSON: Will the honourable gentle give a pledge that the chemists will be paid?

Mr. WEDGWOOD BENN: When I have reason to sup that the chemists through authorised channels are ma that demand, an answer will be given to that question.

The motion was under discussion at 11 o'clock, whe the rules of the House further debate stood adjourned.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institut and others possessing information suitable for this column, invited to forward to THE LANCET *Office, directed to the Editor, not later than 9 o'clock on the Thursday morning of week, such information for gratuitous publication.*

BRERETON-BARRY, J., L.A.H., has been appointed Assistant Surgeo the Stockport Infirmary.

BROWN, J. PERCIVAL, M.B., Ch.B. Vict., has been appointed Me Officer of Health of Bacup.

EDINGTON, G. H., M.D., C.M. Glasg., has been appointed Lecture Clinical Surgery at the Glasgow University.

FIGDOR, PHILIP, M.B., Ch.B. Glasg., has been appointed Assis Medical Officer and Clinical Pathologist to the City of Westmi Union Infirmary, Hendon, N.W.

est, GORDON ORMSBY, M.D., B.C. Cantab., has been appointed

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strict

lams, E U., M.R.C.S., L R.C.P. Lond., has been reappointed adiographer to the Royal Free Hospital.

oy, H. R., M.D., B.S. Lond., has been appointed Tuberculosis fficer to the Southwark Borough Council.

Vacancies.

urther information regarding each vacancy reference should be made to the advertisement (see Index).

sley, BECKETT HOSPITAL AND DISPENSARY.—Second House urgeon, unmarried. Salary £100 per annum, with apartments, ard, and laundry.

ow-in-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon lary £120

, ROYAL I

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ry £80

sistant

Officer.

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with apart-

Salary

LDREN.—

Salary

Medical

Assistant

stol ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Physician. Salary £80 per annum, with board, rooms, attendance, and laundry. Also House Surgeon at end of May.

stol ROYAL INFIRMARY.—Two House Surgeons, House Physician, and Throat, Nose, and Ear House Surgeon, all for six months. Salaries at rate of £100 per annum, with board, apartments, and laundry.

ley-in-WHARFEDALE, SCALEBOR PARK ASYLUM.—Assistant Medical Officer. Salary £220 per annum, with board, apartments, attendance, &c.

y INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

bridge, ADDENBROOKE'S HOSPITAL.—House Physician. Salary t rate of £20 per annum

ER HOSPITAL (F

LISLE, CUMBERLA

unior Assistant

nnum, with boar

ISLE NON PROV

alary £200 per a

SEA HOSPITAL

ssistants for the

TERFIELD A

alary £90

per annum during second year Also Assistant House rgeon, unmarried. Salary at rate of £75 per annum, with board laundry.

URY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. ary £120 per annum, with board, residence, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.— Salary £65 per

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—

m, with

Salary

HAMPST
Med
and
patie
patient
rate of

HASTINGS,
at rate

HOSPITAL
Casualt

rgeon and
per annum

ix months.
ging. Also
with board
and apartments.

ITALIAN HOSPITAL, Queen square, W.C.—Honorary Surgeon for In patients.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, residence, &c.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salaries at rate of £60 per annum,

Physiology. Salary £100 per annum.

washing, &c.

MANCHESTER CHILDREN'S HOSPITAL (OUT-PATIENTS' DEPARTMENT), Gartside street, Manchester.—Medical Officer. Salary £180 per annum

MANCHESTER, COUNTY ASYLUM, Prestwich.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill road.—Junior House Surgeon. Salary £100 per annum, with apartments and board.

lodging, &c.

NEWCASTLE-UPON-TYNE, HOSPITAL FOR SICK CHILDREN.—Junior Medical Officer for six months. Salary £80 per annum, with

and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Medical Registrar. Also Pathologist. Salary 120 guineas per annum.

nal Green, E.—
n, with board.

rried. Salary

alary £100 per

Officer. Salary

and Female
unior Obstetric

£2,421,071 over those of 1912. The total surplus of the two branches is £3,908,605, which is disposed of as follows: £1,250,000 to the Investments Reserve Funds, £2,198,854 to be distributed among participating policy-holders and the staff, and £459,751 to be carried forward. The directors' report is accompanied by the actuarial report of Mr. J. Burn. There are six Prudential Approved Societies under the National Insurance Act, 1911. Payment of sickness and maternity benefits commenced on Jan. 13th, 1913, and during the year a sum of £1,401,360 was distributed to members by the company's agents. The amount paid by the Approved Societies for expenses to the Industrial Branch of the Prudential was £296,630 6*s.* 3*d.*

EXPOSING CHILDREN IN ORDER TO OBTAIN ALMS.

AT the Marylebone police court recently Mr. Paul Taylor sentenced to 21 days' imprisonment a man who had been playing an organ in the streets at night while his wife sat on the shafts with an infant 12 months old in her arms. They had between them when arrested 11*s.* 3*d.* in silver and bronze, and an inspector of the National Society for the Prevention of Cruelty to Children stated that the man had once told him that he could earn 5*s.* a day by using his children in the manner described. Mr. Paul Taylor, in sentencing the male defendant and dismissing the case against the wife, said that to permit such a practice would be to put a premium upon cruelty. The man, we have seen stated, was in a deplorable condition of health.

A CATALOGUE OF MEDICAL BOOKS.

CATALOGUES of medical or other special books, when well prepared with a good index, are not only needed by those who intend to purchase some of the works enumerated, but are also useful as reference books in themselves to past and current literature and as a ready means of knowing what has been written on any one special subject or of refreshing the memory as to the exact title of a work which may be well known but whose specific designation cannot be recalled at the moment by a dormant memory. It might even be desirable to have a catalogue of catalogues. Messrs. Butterworth's "Medical Catalogue for 1914," with 202 pages, is a most useful catalogue and has been well prepared, and firms which prepare books of this sort should be encouraged. It may be obtained by medical men on addressing Messrs. Butterworth and Co. (Australia), Limited, 4, Bell-yard, Temple Bar, London, or 76, Elizabeth-street, Sydney, New South Wales.

J. N.—Particulars of the Salisbury treatment were given in THE LANCET of July 3rd (p. 11) and 10th (p. 115), 1897.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 13th and 14th (Berlin).—Thirteenth Congress of the German Orthopædic Society.
„ 13th–16th (New York).—Fourth Congress of the International Surgical Society. (President: Prof. Depage. Bruxelles.)
„ 15th–18th (Berlin).—Forty-third Congress of the German Surgical Society.
„ 19th–21st (Berlin).—"Jubilee" Congress of the German Röntgen Society.
„ 20th–23rd (Wiesbaden).—Thirty-first German Congress for Internal Medicine.
„ 27th–May 1st (London, Royal Horticultural Hall).—Nursing Conference and Exhibition.
May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
May (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, March 25th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 19	29·22	S.	0·13	70	46	37	37	37	Raining
„ 20	28·74	S.E.	0·17	49	41	37	37	38	Raining
„ 21	29·10	W.	0·41	72	46	35	38	39	Overcast
„ 22	29·32	S.W.	0·07	89	51	35	37	39	Fine
23	29·64	S.W.	0·03	69	50	35	39	40	Cloudy
[illegible]	29·24	S.W.	0·10	90	53	40	42	43	Cloudy
[illegible]	29·19	S.W.	0 03	78	51	37	39	40	Fine

Medical Diary for the ensuing

SOCIETIES.

ROYAL SOCIETY, Burlington House, London W.
THURSDAY.—4.30 P.M., Bakerian Lecture:—Prof. A. Fo Lines in Spark Spectra.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street,

TUESDAY.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W C. Price-Jones): at 8.30 P.M.

Laboratory Meeting at the Pathological Department Hospital, W.

Dr. Charles Russ: Electrically Induced Change Bacilli in Vivo and in Pure Cultures.
Dr. E. H. Kettle: (1) New Growths of the Vermiforn (2) Diffuse Carcinomatosis of Spleen; (3) Kidn
Dr. H. Warren Crowe: Method for Testing the Sug of Bacteria.
Dr. B. H. Spilsbury: Growths of the Nervous Syste

THURSDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. S Chas. W. Buckley, J. Campbell McClure): at 5.30

Dr. C. W. Buckley (Buxton): Painful Affecti Shoulder, their Diagnosis and Treatment.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. S T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Discussion:

On the Need for Research in Ante-natal Pathology Dr. Amand Routh.

The following will take part in the discussion Ballantyne. Dr. G. F. Blacker, Dr. Eardley H Handfield-Jones, Dr. F. W. Mott, F.R.S., Dr. H. Le Dr. A. W. Russell, Dr. Darwall Smith, and Dr. H. R

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—E. Cecil I. Graham): at 4 P.M.

Discussion:

On the Intranasal Treatment of Frontal Sinusitis Dr. Watson-Williams and Mr. Herbert Tilley.

Sir StClair Thomson and others will take part in th

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, square, W.
MONDAY.—8.30 P.M., Sir StClair Thomson: Three Years' Experience of Laryngeal Tuberculosis.—Mr. T. Tonsils and Adenoids in Children: a Plea for Fewer

NORTH-EAST LONDON CLINICAL SOCIETY, Prince Hospital, Tottenham, N.
THURSDAY.—4.15 P.M., Clinical Meeting.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary I Buckingham Palace-road, S.W.
THURSDAY.—7.30 P.M., Lecture: Dr. L. Guthrie: The Ne

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, street, Edgware-road, W.
THURSDAY.—8.30 P.M., Paper:—Dr. C. Shaw: A P Degenerate.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, W Hospital, Hammersmith-road, W.
FRIDAY.—8 P.M., Special Clinical Evening.

LECTURES, ADDRESSES, DEMONSTRAT

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall
TUESDAY AND THURSDAY.—5 P.M., Oliver-Sharpey Le F. G. Hopkins: On Some Effects which Follow up ances in the Chemical Reaction of the Blood. and II.)

MEDICAL GRADUATES' COLLEGE AND POLYC Chenies street, W.C.
MONDAY.—4 P.M., Dr. E. G. Little: Clinique (Skin) Lecture:—Dr. A. F. Tredgold: Some Points in Her
TUESDAY.—4 P.M., Dr. H. L. Tidy: Clinique (Medical) Lecture:—Dr. H. Orton: The X Ray Examination
WEDNESDAY.—4 P.M., Mr. H. A. T. Fairbank: Cliniqu 5.15 P.M., Lecture:—Dr. J. A. Willett: The Im Abdominal Examination of Patients during the L of Pregnancy and Parturition.
THURSDAY.—4 P.M., Dr. R. Wells: Clinique (Medical) Lecture:—Mr. H. A. Kisch: Danger Signals in Su the Middle Ear.
FRIDAY.—4 P.M., Mr. J. F. Cunningham: Clinique (Ey

POST-GRADUATE COLLEGE, West London Hospital, Ha road, W.
MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P and Surgical Clinics. X Rays. Mr. Armour: [illegible] Department. Dr. Pritcha [illegible] Mr. Dunn: [illegible] ynæcological
TUESDAY.—10 A [illegible] X Rays. M 2 P.M., Medi [illegible] Operations. Dr. Davis: Diseases of the Throat, No Dr. Pernet: Diseases of the Skin.

A M , Dr Saunders: Diseases of Children Dr perations of the Throat Nose and Ear 2 P M , and Surgical Clinics X Rays Mr Pardoe Opera Mr B Harman Diseases of the Eye Dr Simson: ses of Women

[illegible]

ernet: Diseases of the Skin

[illegible]

T LONDON POST GRADUATE COLLEGE Prince of eral Hospital Tottenham N

—Clinics:—10 30 A M , Surgical Out-patient (Mr R ple) 2.30 P M Medical Out patient (Dr T R Whipham), cological (Dr Banister) 3 P M , Medical In patients (Dr Leslie)

[illegible]

CHOOL OF CLINICAL MEDICINE Dreadnought reenwich

[illegible]

Y —Out-patient Demonstrations:—10 A M , Dr H R Pren Medical Mr H Curtis: Surgical 12 noon Mr G N Biggs: t, Nose, and Ear —2 P M , Mr R Carling or Mr W e: Operations Dr A Davies: Pathological Demonstra 3 15 P M , Dr R Wells Medicine

[illegible]

FOR CONSUMPTION AND DISEASES OF THE CHEST, S W

AY —4.30 P M , Lecture —Dr Inman On Sputum, Tuber s and Otherwise

AT HOSPITAL Golden square W

—5 15 P M Special Demonstration of Selected Cases

Y —5 15 P M , Clinical Lecture

OSPITAL FOR CHILDREN, Board Room of the Hospital ad N E

—4 P M Lecture:—Dr T S Luk s The Cardiac Mani ions of Rheumatism

ONDON THROAT NOSE AND EAR HOSPITAL Gray's C

AND FRIDAY —3 P M , Lectures —Dr D McKenzie scopy

OSPITAL Museum of the Hospital Brompton S W ate Lectures on the Diagnosis and Treatment of Cancer:—

AY —5 P M , Mr Leitch Some Problems of Cancer

STITUTION OF GREAT BRITAIN Albemarle street W

—9 P M , Prof Sir J J Thomson Further Researches on ive Rays

ER HOSPITALS POST GRADUATE CLINICS

—SALFORD ROYAL HOSPITAL—4 30 P M , Mr R Olleren Orthopædic Demonstration

AY —ROYAL INFIRMARY—4 30 P M , Mr A Wilson The f Nitrous Oxide and Oxygen in Long Operations

Y —ANCOATS HOSPITAL—4 30 P M , Mr W H Hey ical Cases

—ROYAL EYE HOSPITAL—4 30 P M , Dr J Wharton Cases iagnosis

HOSPITAL POST GRADUATE COURSES Dublin

—10 A M , Obstetrical Lecture Operative Delivery— on 11 A M , Examination of Patients and Minor ations

—10 A M , Major Operations

AY —10 A M , Obstetrical Lecture: Version (continued) of Patients and Minor Operations

ions Lecture Radical Abdominal mination of Patients and Minor

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